

REACTOR OVERSIGHT PROCESS SELF-ASSESSMENT BASELINE INSPECTION PROGRAM MONITORING AND COMPREHENSIVE REVIEW

Effective Date: May 13, 2025

0307B-01 PURPOSE

The Reactor Oversight Process (ROP) self-assessment program evaluates the overall effectiveness of the ROP in meeting its goals and intended outcomes. This procedure provides the process and scope for monitoring of the baseline inspection procedures (IPs) and a periodic comprehensive review of the baseline inspection program.

0307B-02 OBJECTIVES

- 02.01 To monitor the effectiveness of the baseline IPs.
- 02.02 To periodically ensure that the baseline inspection program is effective in providing the minimum level of inspection to assure that licensee performance adequately meets the objectives for each cornerstone of safety.
- 02.03 To periodically ensure that the baseline inspection program meets the objectives, scope, and intent of the basis provided in IMC 0308 and IMC 0308 Attachment 2.

0307B-03 APPLICABILITY

This Appendix applies to the NRC baseline inspection program as described in IMC 2515, Appendix A, the bases for which is found in IMC 0308 and IMC 0308, Attachment 2.

0307B-04 RESPONSIBILITIES AND AUTHORITIES

- 04.01 Director, Division of Reactor Oversight, Office of Nuclear Reactor Regulation; Director, Division of Security Operations and Director, Division for Preparedness and Response, Office of Nuclear Security and Incident Response
 - a. Review and approve any significant resource changes to IPs per IMC 0040 process.
 - b. Provide a Senior Executive Service (SES) sponsor for the baseline inspection program review to provide oversight, guidance, and assistance with change management and resolving differing views, as requested by the review team.
 - c. Approve the baseline inspection program review charter and final report, including consideration of any recommendations for improvement.

04.02 Regional Directors, Division of Radiological Safety and Security (DRSS); Division of Operating Reactor Safety (DORS); Division of Fuels, Radiological Safety, and Security; and Nuclear Materials Safety (as applicable)

Participate in the baseline inspection program review by reviewing the team's analysis and recommendations.

04.03 Chief, Reactor Inspection Branch (IRIB)

- a. **Designate** a Team Lead, participate in, and provide staffing support for the baseline inspection program review.
- b. **Designate** a Baseline IP Monitoring Coordinator, who is typically the lead for IMC 0307 Appendix B, to coordinate the monitoring of baseline IPs and associated reporting requirements.
- c. Review and concur on the **comprehensive** baseline inspection program review charter and final report, including recommendations for improvement.
- d. Review and approve the **annual** Baseline IP monitoring report.
- e. Review and recommend approval for any significant resource changes to IPs per process in IMC 0040.

04.04 Branch Chiefs of IP Lead(s)

Ensure that IP leads conduct satisfactory monitoring of their respective baseline IPs that fall under the responsibility of the branch.

04.05 Chief, Operating Experience Branch

- a. Provide staffing support for the baseline inspection program review.
- b. Provide Operating Experience data applicable to the Baseline IPs, as necessary, to support baseline IP monitoring reviews.

04.06 Comprehensive Baseline Inspection Program Review Team Lead

- a. Develop review schedule and coordinate team meetings and activities in accordance with the guidance in this Appendix.
- b. Coordinate development and concurrence process on review charter and final report.
- c. Provide input to the annual ROP self-assessment Commission paper regarding the status or completion of the review, as applicable.

04.07 Baseline IP Monitoring Coordinator

- a. Facilitate quarterly trending of data by IP leads.
- b. Collect baseline IP monitoring results via web-based quarterly reporting.

- c. Ensure the Operating Experience Branch Chief is aware if there are any significant trends in findings noted as a part of baseline IP monitoring for further analysis, as needed.
- d. Coordinate end of assessment meeting to discuss consolidated IP trend results.
- e. Aggregate baseline IP lead monitoring results into an annual report for DRO management.
- f. Aggregate and summarize highlights of the baseline IP monitoring results as an input to the annual ROP self-assessment Commission paper.
- g. Provide available baseline IP monitoring data to the Comprehensive Baseline Inspection Program Review team.

04.08 Baseline Inspection Procedure Lead(s)

- a. Monitor assigned IPs quarterly and report results annually.
- b. Participate in the baseline inspection program review (conducted every fifth year), as directed.
- c. Obtain regional inspection perspectives on assigned IPs through interviews, meetings, and observation or participation in inspections in the field.
- d. Revise IP(s) as needed.

04.09 Chief(s), Regional Technical Support Branch

- a. Identify regional point-of-contacts (POCs) for IP leads to obtain inspector perspective, as required.
- b. Coordinate regional participation in baseline inspection program review.

04.10 Regional Points of Contact

Provide inspector's perspective and feedback on IP implementation to IP leads.

0307B-05 REQUIREMENTS

05.01 IP Lead Requirements

The baseline IP lead shall remain cognizant of the implementation of their assigned IP(s) by addressing questions raised by the regions and inspectors, addressing input provided through the feedback form process, participating in industry meetings, reviewing relevant operating experience, and participating in or observing inspections. The baseline IP lead shall coordinate inspection observation or participation through the regional POCs. The baseline IP lead will establish and maintain working relationships with internal stakeholders such as regional POCs to obtain inspectors' perspectives on the IP implementation.

As staff are assigned as baseline IP lead(s), they shall work to develop and maintain a thorough understanding of the following areas:

- a. The bases for the baseline inspection program as a whole, as well as the bases for the inspectable areas in one's assigned IP(s), especially in terms of the risk-informed approach (IMC 0308 and IMC 0308 Attachment 2)
- b. Recent regulatory changes (e.g., regulatory requirements, regulatory guides, licensee commitments, generic communications) that could impact assigned IP(s)
- c. Recent management direction, regional needs, external stakeholder feedback, and ROP feedback form resolution that may lead to changes to baseline IP(s)
- d. Requirements in Management Directive 8.13 for ROP changes requiring Commission approval or notification
- e. Operating experience issues related to assigned IP(s)

Maintaining level of knowledge in these areas will ensure that baseline IP leads have the necessary expertise to effectively carry out the responsibilities detailed in Section 05.02 below.

05.02 Scope and Process

a. Monitoring of Baseline IPs¹

The IP Lead Desktop Guide (a living document that can be found on the internal NRC ROP Baseline IP Leads SharePoint Page) provides detailed, implementation-level guidance regarding the actions described below. The IP Lead Desktop Guide is based on the IP Leads Expectation Memo (Accession No. ML19219A225).

The IP leads are responsible for conducting, supporting, and participating in the following activities:

1. Quarterly Baseline IP Evaluations

On a routine basis, not to exceed quarterly, the assigned baseline IP lead shall evaluate the implementation and effectiveness of their assigned IP(s) through evaluation of relevant ROP program execution data in accordance with Exhibit 1, "Baseline Inspection Procedure Monitoring Guide". See IP Lead Desk Guide for additional guidance.

Significant trends (as compared to historical averages or expected trends) shall be identified and the cause(s) explored. The baseline IP lead will act, as required, for

¹ The baseline IP monitoring efforts described in this subsection do not, in and of themselves, satisfy the periodic IMC/IP review/update requirement described in IMC 0040 and OVRST-102, where each IP must be reviewed at least once every five years and either revised as necessary or reissued noting that a detailed review has been performed and a revision to the document was not warranted.

any adverse trends detected, considering possible improvements to the assigned IP(s) in terms of scope, clarity, and adjustments in samples or hours.

To ensure that the baseline IP monitoring efforts are aggregated and that results are documented, the baseline IP leads will enter the results of their monitoring on the NRC internal ROP Baseline IP Leads SharePoint Site on a quarterly basis.

2. Baseline IP Assessment Meeting

Annually, the staff will conduct a **previous** year Q1 through Q4 Baseline IP Assessment Meeting to collectively discuss any significant trends or issues identified during the evaluation of their assigned IPs. At a minimum, the topics will include significant trends or issues covered in Exhibit 1, possible program generic implications, operating experience-related issues, and significant nonconformance with program guidance (e.g., IMC 0609 and 0611, the Enforcement Policy, etc.).

3. Baseline IP Monitoring Report

The Baseline IP Monitoring Coordinator will aggregate the current year results from the Baseline IP Assessment meeting into a nonpublic Baseline IP Monitoring Report, which will be shared with stakeholders, as applicable, and forwarded for management consideration. A summary of the most significant baseline IP monitoring results will be included in the annual ROP self-assessment SECY.

The Baseline IP Monitoring Coordinator will also ensure the Operating Experience Branch is aware of any significant trends in findings noted as part of this activity. IP leads will share the results of assigned reviews with management as appropriate, will process any IP revisions identified as part of this activity, and will create and deliver any additional inspector training as required.

4. Timeline and Milestones

Exhibit 2, "Timeline and Milestones for Monitoring Baseline Inspection Procedures," shall be used as a guide as the timeline to conduct the Baseline IP evaluations, Baseline IP Assessment Meeting and prepare the Baseline IP Monitoring report.

b. Comprehensive Baseline Inspection Program Review

1. Five-Year Comprehensive Baseline Inspection Program Review

The staff will conduct a comprehensive baseline inspection program review every five years (the year after NRR has completed ROP implementation audits for all four regions). This review will holistically evaluate the entire baseline inspection program for meeting the intent of IMC 0308 and IMC 0308, Attachment 2; any necessary program-wide adjustments in inspection hours or samples; any opportunities for increased use of risk information in the program; any additions or deletions of baseline IPs; any proposed revisions of resource estimates, samples, or hours; and any other improvements.

The review will be conducted by a cross-functional team comprised of several baseline IP leads and regional inspectors/staff, with the team lead from DRO/IRIB. The DRO Director will assign an SES sponsor for the baseline inspection program

review who will provide oversight, guidance, and assistance with change management and resolving differing views, as requested by the review team.

Once the team is identified, the team will use Exhibit 3 to develop and conduct a web-based survey intended to be completed by all the assigned baseline IP leads, a selection of resident and regional inspectors, and any other staff who desire to provide input per Exhibit 3 (e.g., PI program area lead, operating experience staff). The results of this survey, and recent areas of management focus, licensee performance trends, and any recent Commission direction, will inform the team's selection of one to two (nominal, 3 maximum) baseline inspection program review focus areas. Once the focus areas are determined, the team will draft a charter which will be reviewed and approved by the DRO Division Director and then begin the review. If the review's focus area(s) is centered on a specific group of IPs, the leads for those IPs shall be invited to join the review team.

The team will leverage ROP program execution data to the maximum extent possible in both the review and in the development and justification for any recommended improvements to the baseline inspection program. Additionally, the review team shall look for opportunities to further risk-inform the baseline inspection program. The team will also utilize risk-informed approaches in developing recommendations and decision-making during the review.

2. Comprehensive Baseline Inspection Program Review Report

Once the review is complete and recommendations are developed, the review team will present their results and recommendations, if any, to DRO management and branch chiefs, and the regional technical support and assessment branch chiefs and team leads and regional DORS/DRSS management. Once these presentations are complete and the team has made any necessary adjustments to ensure alignment, the review team will issue a memo documenting the results of the review and any recommendations for improvement. Appropriate staff will proceed to implement any recommendations approved by management for implementation, including revisions to baseline IPs or other actions, as required. Recommendations from the review which may be more complex or require coordination between multiple IP leads shall be entered into the ROP lessons learned tracker.

3. Timeline and Milestones

Exhibit 4, "Timeline and Milestones for Baseline Inspection Program Review," shall be used as a guide for milestones and timelines to conduct the Comprehensive Baseline Inspection Program Review.

4. Effectiveness Reviews

If a revision to a baseline IP meets the threshold for an effectiveness review as described in IMC 0307, the assigned baseline IP lead should be involved in the effectiveness review. The effectiveness review shall follow the process described in IMC 0307.

0307B-06 REFERENCES

IMC 0040, "Preparation, Revision, Issuance, and Ongoing Oversight of NRC Inspection Manual Documents"

IMC 0307, "Reactor Oversight Process Self-Assessment Program"

IMC 0308, "Reactor Oversight Process Basis Document"

IMC 0609, "Significance Determination Process"

IMC 0611, "Power Reactor Inspection Reports"

IMC 0801, "Inspection Program Feedback Process"

IMC 2523, "NRC Application of the Reactor Operating Experience Program in NRC Oversight Processes"

IP Lead Desktop Guide, located on the internal ROP Baseline IP Leads SharePoint Site (<https://usnrc.sharepoint.com/teams/ROPBaselineInspectionProcedureLeads>, nonpublic)

MD 8.13, "Reactor Oversight Process"

END

Exhibit 1: Baseline Inspection Procedure Monitoring Guide

Exhibit 2: Timeline and Milestones for Monitoring Baseline Inspection Procedures

Exhibit 3. Comprehensive Baseline Inspection Program Review Guidelines

Exhibit 4: Timeline and Milestones for Comprehensive Baseline Inspection Program Review

Attachment 1: Revision History for IMC 0307 Appendix B

Exhibit 1: Baseline Inspection Procedure Monitoring Guide

(Use in conjunction with the IP Leads Desktop Guide)

Step	Action / Question
1	Quarterly, review the following ROP program data ¹ as compared to recent and historical averages for your assigned IP(s): the number and significance of inspection findings, inspection hours charged, inspection samples completed, number and severity of traditional enforcement violations, both agency-wide and by region. Identify any significant positive or negative trends and any significant regional differences identified in these data sets.
2	Are there any significant differences between actual hours charged for assigned IP(s) versus the resource estimate? Is a realignment of the IP resource estimate needed? Are there any adjustments to hours or samples that might increase flexibility or efficiency for inspectors? Is the data in RPS in conformance with IMC 0306?
3	Quarterly, conduct a review of selected items from 2-4 (one from each region) inspection reports, if available, to identify trends in inspection scope and results and to ensure conformance with program guidance (e.g. IMC 0611, IMC 0612, and the Enforcement Policy).
4	Did you observe or participate in implementation of your assigned IP(s) in the field in at least once per year? Please provide a short summary and any insights gained from this activity.
5	If there are any proposed changes to your assigned baseline IP(s) as a result of this activity, follow the IP revision process to propose those changes. Consider proposed changes to samples or hours, any required inspector training, or any other IP adjustments. Consider whether any proposed procedure changes should be noted in the annual ROP self-assessment SECY or Program Area Evaluations.
6	The above information shall be entered on the internal NRC ROP Baseline IP Leads Expectations SharePoint Site.

¹ See the IP Lead Desktop Guide available on the ROP Baseline IP Leads SharePoint site for additional information.

Exhibit 2: Timeline and Milestones for Monitoring Baseline Inspection Procedures

<u>Activity</u>	<u>Month</u>	<u>Lead</u>	<u>Participants</u>
Send out e-mail requesting Assigned Baseline IP leads' current year Q1 evaluation.	Mid-May	BIP Monitoring Coordinator	-
Assigned Baseline IP leads' current year Q1 evaluations and reporting due.	Mid-June	BIP Monitoring Coordinator	Assigned Baseline IP leads
Review Baseline IP current Q1 evaluations.	Mid July	BIP Monitoring Coordinator	-
Send out e-mail requesting Assigned Baseline IP leads' current year Q2 evaluation	Mid-August	BIP Monitoring Coordinator	-
Assigned Baseline IP leads' current year Q2 evaluations and reporting due.	Mid-September	BIP Monitoring Coordinator	Assigned Baseline IP leads
Review Baseline IP current Q2 evaluations.	Mid October	BIP Monitoring Coordinator	-
Send out e-mail requesting Assigned Baseline IP leads' current year Q3 evaluation	Mid-November	BIP Monitoring Coordinator	-
Assigned Baseline IP leads' current year Q3 evaluations and reporting due.	Mid-December	BIP Monitoring Coordinator	Assigned Baseline IP leads
Review Baseline IP current Q3 evaluations.	Mid-January	BIP Monitoring Coordinator	-
Send out e-mail requesting Assigned Baseline IP leads' current year Q4 evaluation	Mid-February	BIP Monitoring Coordinator	-
Assigned Baseline IP leads' current year Q4 evaluations and reporting due.	Mid-March	BIP Monitoring Coordinator	Assigned Baseline IP leads
Review Baseline IP current Q4 evaluations.	Mid-April	BIP Monitoring Coordinator	-
Conduct current year Q1 through Q4 Baseline IP Assessment Meeting	End of April	BIP Monitoring Coordinator and IRIB BC	Assigned Baseline IP leads
Aggregate current year results from assessment meeting into Baseline IP Monitoring Report	End May	BIP Monitoring Coordinator	-
Provide input for annual ROP Self-Assessment SECY.	Mid-January	BIP Monitoring Coordinator	-

Exhibit 3: Comprehensive Baseline Inspection Program Review Guidelines

The below questions and requested information shall form the foundation of the baseline inspection program review but are not meant to be the only lines of inquiry. They should form most of the survey which is completed by all baseline IP leads and a selection of resident inspectors. Additionally, the baseline inspection program review team should review these questions periodically while conducting their review and once recommendations are developed.

1. The Baseline IP Leads shall provide a summary of significant IP changes, insights, and significant trends from the last 5 years for assigned baseline IP(s) to the review lead. This information can be summarized from the baseline IP monitoring results covering that time period.

Input: Baseline IP leads

2. The majority of inspectable areas for the baseline inspection program were chosen for their risk significance (needed to meet a cornerstone objective as derived from a combination of probabilistic risk analyses insights, operational experience, deterministic analyses insights, and regulatory requirements). Given any changes in overall reactor licensee performance, operating experience, regulatory requirements, rulemaking, TS changes, etc., are the inspectable areas covered by the baseline IPs still based on risk importance, if applicable, in measuring a cornerstone objective? Do any inspectable areas need to be added or deleted?

Input: Baseline IP leads, Resident Inspectors

3. The scope of baseline IPs is determined using a risk-informed approach. Are there any baseline IPs that need to be reduced or increased in scope commensurate with any industry-wide changes in plant/component risk significance?

Input: Baseline IP leads, Resident Inspectors

4. The scope of a baseline IP is dependent on the applicability of a PI. The more fully a PI measures an area, the less extensive is the scope of inspection. Have there been any changes to PIs since the last baseline inspection program review that would necessitate a review of the scope of any baseline IP or group of IPs?

Input: Baseline IP leads, PI program area lead

5. Does the baseline inspection program still represent the minimum level of inspection required at a power plant, regardless of performance, to adequately assess licensee performance in meeting the cornerstone objectives?

Input: Baseline IP leads, Resident Inspectors

6. Are there any current baseline inspectable areas (or IP scope) that are no longer necessary, or better suited to be included within the inspection program outside of the baseline inspections?

Input: Baseline IP leads, Resident Inspectors

7. Do any changes to the baseline inspection program recommended by the review team revise inspection elements which are fundamental to the ROP as defined in IMC 0308, "Reactor Oversight Process Basis Document?" If so, ensure that IMC 0308 is updated and that Commission notification/approval requirements are met per MD 8.13, "Reactor Oversight Process."

Input: Baseline inspection program review team (This question is for the baseline inspection program review team once the review is completed and recommendations developed.)

8. Is there any recent operating experience related to baseline IPs or to risk-significant areas that requires attention or changes to the baseline inspection program? Evaluate any OpE Smart Samples associated with the IP and whether the OpE Smart Sample procedure should be revised.

Input: Operating experience staff

Exhibit 4: Timeline and Milestones for Comprehensive Baseline Inspection
Program Review (BIPR)

<u>Activity</u>	<u>Month</u>	<u>Lead</u>	<u>Participants</u>
Build Team and Identify Team Lead for BIPR	January	IRIB BC	-
Develop and conduct baseline IP lead and resident/regional inspector survey.	February (leverage most recent inspection cycle results in RPS)	BIPR Team Lead	BIPR Team, All Baseline IP leads, sample of RIs from each region
Using survey results and management input, develop focus areas and issue charter. Commence review.	Early March	BIPR Team Lead	BIPR Team, DRO Management, Regional Division Directors and TSAB BCs/TLs
Communicate with baseline IP leads, regional staff, RIs, DRO staff as necessary to complete review.	March – May	BIPR Team Lead	BIPR Team, others as necessary
Complete review and develop recommendations for improvement.	June	BIPR Team Lead	BIPR Team
Present results and recommendations to DRO, DRSS, DORS management at DDCM. Address feedback.	July	BIPR Team Lead	BIPR Team, DDCM participants
Document conclusions and recommendations in memo to DRO Director.	August	BIPR Team Lead	BIPR Team, IRIB BC, DRO Director
Revise baseline IPs or IMCs, as required, to implement approved recommendations. Larger, longer-term programmatic change recommendations into the ROP lessons learned tracker.	July - December	Assigned Baseline IP leads	-
Identify and conduct training on resulting program changes, if required.	July-December	Assigned Baseline IP Leads	-
Implement revised IPs, as required	Beginning January	Inspectors	-

Provide input for annual ROP Self-Assessment SECY.	January	BIPR Team Lead	-
Build Team and Identify Team Lead for BIPR	January	IRIB BC	-
Develop and conduct baseline IP lead and resident/regional inspector survey.	February (leverage most recent inspection cycle results in RPS)	BIPR Team Lead	BIPR Team, All Baseline IP leads, sample of RIs from each region
Using survey results and management input, develop focus areas and issue charter. Commence review.	Early March	BIPR Team Lead	BIPR Team, DRO Management, Regional Division Directors and TSAB BCs/TLs
Communicate with baseline IP leads, regional staff, RIs, DRO staff as necessary to complete review.	March – May	BIPR Team Lead	BIPR Team, others as necessary
Complete review and develop recommendations for improvement.	June	BIPR Team Lead	BIPR Team
Present results and recommendations to DRO, DRSS, DORS management at DDCM. Address feedback.	July	BIPR Team Lead	BIPR Team, DDCM participants
Document conclusions and recommendations in memo to DRO Director.	August	BIPR Team Lead	BIPR Team, IRIB BC, DRO Director
Revise baseline IPs or IMCs, as required, to implement approved recommendations. Larger, longer-term programmatic change recommendations into the ROP lessons learned tracker.	July - December	Assigned Baseline IP leads	-
Identify and conduct training on resulting program changes, if required.	July-December	Assigned Baseline IP Leads	-
Implement revised IPs, as required	Beginning January	Inspectors	-
Provide input for annual ROP Self-Assessment SECY.	January	BIPR Team Lead	-

Attachment 1: Revision History for IMC 0307 Appendix B

Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Description of Training Required and Completion Date	Comment Resolution and Closed Feedback Form Accession Number (Pre-Decisional, Non-Public Information)
N/A	ML070120370 01/25/07 CN-07-003	Initial issuance of Appendix B to IMC 0307.	N/A	ML070120373
N/A	ML083110462 04/09/09 CN 09-011	Revisions to incorporate several recommended changes from regional Division Directors	N/A	ML090640898
N/A	ML112990461 10/13/11 CN 11-019	Revisions made to incorporate several recommended changes that resulted during the implementation of the 2011 ROP realignment.	N/A	ML112990461
N/A	ML15187A398 11/23/15 CN 15-025	Complete rewrite of IMC to incorporate lessons learned from ROP Enhancement – Baseline Inspection Program and Self-Assessment Projects. Changes include incorporating annual assessment of BIP that was previously addressed in IMC 0307; adding focus and effectiveness reviews; addressing resource changes as part of the annual assessment and focus and effectiveness reviews in lieu of a separate realignment, and providing additional details to the assessment process to aid the Inspection Procedure Leads.	N/A	ML15225A113
N/A	ML17165A508 08/25/17 CN 17-016	Revised to reduce frequency to biennial vice annual and for clarity of language. Many aspects of the inspection program operate on a two year cycle and as such there is insufficient meaningful data to perform a yearly assessment.	N/A	ML17167A017

Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Description of Training Required and Completion Date	Comment Resolution and Closed Feedback Form Accession Number (Pre-Decisional, Non-Public Information)
N/A	ML19289A965 05/29/20 CN 20-025	Complete reissuance (major rewrite, satisfies periodic/review update requirement) to incorporate changes to the ROP self-assessment program as a result of the 2019 holistic review. Implemented data-driven continuous baseline IP monitoring and a comprehensive baseline inspection program review every 5 years.	N/A	ML19274C497
	ML22117A010 08/08/22 CN 22-016	Complete reissuance (major rewrite) to incorporate changes regarding staff expectations for inspection procedure and inspection manual leads of reactor oversight process governance documents (ML19219A225). Implemented data-driven quarterly baseline IP monitoring, which references the desk guide by providing information to implement the memorandum.	N/A	ML22117A021
	ML25028A157 05/13/25 CN 25-011	Administrative changes for clarity to update divisions and terminology. Incorporated recommendations from FBF.	N/A	N/A FBF 0307B-2489 ML23186A199