

Calendar Year 2023

Reactor Oversight Process
Self-Assessment Metric Overview and
Report

CY 2023 ROP Self-Assessment Metrics Overview

Independence Metrics

I-1	I-2	I-3	I-4	I-5
Completion of the Baseline Inspection Program	Resident Inspector Objectivity Through Diverse Experience	Inspector Objectivity and Performance Reviews	Fully Qualified Inspectors, Examiners, and Senior Reactor Analysts	Analysis of Resident Inspector Site Staffing
Green	Green	Green	Green	Yellow

Openness Metrics

O-1	O-2	O-3	O-4
Issuance of Inspection Reports	Issuance of Assessment Letters	Conduct of Annual Assessment Meetings or Other Engagement Activities	Issuance of ROP Public Meeting Notices and Summaries
Green	Green	Green	Green

Efficiency and Clarity Metrics

E-1	E-2	E-3	C-1	C-2
Completion of Supplemental Inspections	Completion of Temporary Instructions	SDP Completion Timeliness for Potentially Greater-than-Green Findings	Maintenance of ROP Web Pages	Maintenance of ROP Governance Documents
Green	Green	Yellow	Green	Green

Reliability Metrics

R-1	R-2	R-3
Predictability and Repeatability of Significance Determination Results	Predictability of Agency Actions and Response	Supportability of Inspection Findings
Green	Green	Green

CALENDAR YEAR 2023 ROP SELF-ASSESSMENT METRICS REPORT
REFERENCED TO INSPECTION MANUAL CHAPTER 0307, APPENDIX A

This metrics report follows Inspection Manual Chapter (IMC) 0307, Appendix A (Agencywide Documents Access and Management System (ADAMS) Accession No. ML23125A179) to report on the overall implementation of the Reactor Oversight Process (ROP) as measured by the following 17 ROP performance metrics for calendar year (CY) 2023. For more details on each individual metric, including the specific criteria for green, yellow, or red status, the basis, the ROP program area, the data sources, the related ROP goals, and the related ROP intended outcomes, refer to IMC 0307, Appendix A.

0307A-01 INDEPENDENCE PERFORMANCE METRICS (I)

I-1 Completion of Baseline Inspection Program

Metric Status: Green

Definition: The baseline inspection program is completed annually in accordance with program requirements.

Data and Analysis: In CY 2023, all regions and the Office of Nuclear Security and Incident Response (NSIR) completed the baseline inspection program. IMC 2515, Section 04.07 states that completion, "is defined to be not more than four (4) inspection procedures not completed, per Region (but not more than one procedure not done per plant)." In CY 2023, all inspection procedures were completed in accordance with IMC 2515 and its appendices at all operating reactor sites. Each region and NSIR documented in detail their implementation of the baseline inspection program for CY 2023 via memorandum (ADAMS Accession No. ML24044A207 for Region I, ML24047A209 for Region II, ML24044A108 for Region III, ML24046A180 for Region IV, and package ML24023A052 for NSIR).

The following discussion highlights some items of interest related to baseline inspection completion, but nothing that follows deviates from the overall conclusion that the baseline inspection program was completed in CY 2023. The Coronavirus Disease 2019 (COVID19) public health emergency (PHE) ended on May 11, 2023. Prior to that, the NRC had a modified onsite inspection presence at operating reactors to protect the health of inspectors and site personnel, while maintaining oversight that supported reasonable assurance of adequate protection of public health and safety. The NRC returned to full implementation of the inspection and oversight program according to governing documents through cancellation of the inspection programs memorandum regarding the public health emergency for the reactor safety program ([ML23082A106](#)).

On July 28, 2023, Vogtle Electric Generating Plant (Vogtle) Unit 4 transitioned from the Construction ROP (cROP) to the ROP. Presently, Vogtle Units 3 and 4 are under the ROP as of the end of CY 2023. As

anticipated, since Vogtle Unit 4 entered the ROP toward the middle of CY 2023 annual inspection cycle and was in a non-critical status for the remainder of CY 2023, the staff had limited opportunities to complete samples for the baseline inspection program. The memorandum "Transition to Reactor Oversight Process for Vogtle Electric Generating Plant, Units 3 & 4," dated August 12, 2020 (ML20191A383) describes the overall staff approach for completing the baseline inspection program for both Vogtle Units 3 and 4 for the first operating cycles and incorporates Table 2, "Vogtle Unit 3 and Vogtle Units 3 & 4 Resident Inspector Inspection Samples and Hours," (ML20191A398) which delineates both the approved ROP inspection sample ranges for Vogtle Unit 3 alone and for Vogtle Units 3 and 4 together.

In CY 2023, the staff completed 17 Force-On-Force- (FOF) inspections using Inspection Procedure (IP) 71130.03 (ML21012A329, nonpublic). All 17 operating reactor licensees received the baseline FOF inspection under the previously described inspection procedures during CY 2023.

Since the baseline inspection program was completed for all regions, this metric is green, and no region or office has met the individual threshold for evaluation for this metric.

I-2 Resident Inspector Objectivity through Diverse Experience

Metric Status: Green

Definition: Permanently staffed Senior Resident Inspectors (SRIs) and Resident Inspectors (RIs) spend a minimum of one week each year inspecting at another site.

Data and Analysis: In CY 2023, 2 of the 116 SRI and RI positions in the agency were not able to complete their required objectivity visits by spending a minimum of one week inspecting at another plant in accordance with IMC 0102.

Since the agency had three or fewer non-compliances, and no region or office had more than two non-compliances, this metric is green, and no region or office will be individually evaluated.

I-3 Inspector Objectivity and Performance Reviews

Metric Status: Green

Definition: Line managers perform annual onsite objectivity and performance reviews of each fully qualified inspector and operator licensing examiner assigned to primarily perform onsite activities at an operating reactor site.

Data and Analysis: In CY 2023, 2 of 282 qualified inspectors did not have an annual objectivity review.

Since the agency had three or fewer non-compliances, and no region or office had more than two non-compliances, this metric is green, and no region or office will be individually evaluated.

I-4 Fully Qualified Inspectors, Examiners, and Senior Reactor Analysts

Metric Status: Green

Definition: Inspectors, operator licensing examiners, and senior reactor analysts (SRAs) remain fully qualified in accordance with qualification requirements.

Data and Analysis: In CY 2023, 2 of 313 inspectors, operator licensing examiners, and SRAs were required to have taken either post-qualification or refresher training in accordance with IMC 1245 and its appendices but did not do so.

Since the agency had three or fewer non-compliances, and no region or office had more than two non-compliances, this metric is green, and no region or office will be individually evaluated.

I-5 Analysis of Resident Inspector Site Staffing

Metric Status: Yellow

Definition: Resident inspector staffing is maintained to provide regulatory oversight coverage at each reactor site.

Data and Analysis: In CY 2023, the overall permanent resident inspector staffing percentage for the agency was 92.0%. The permanent resident inspector staffing percentages for each region were 93.1%, 93.8%, 95.5%, and 85.0% for Region I, Region II, Region III, and Region IV, respectively. In CY 2023, there were 16 individual reactor sites which fell below the 90% metric threshold, 7 of which were in Region IV, and the responsible regions provided a detailed explanation of the specific staffing circumstances at each site.

Since the resident inspector staffing percentage is less than 95%, but greater than or equal to 90% for the agency overall, and the resident inspector staffing percentage is less than 90% for Region IV, this metric is yellow, and Region IV was individually evaluated below.

The Region IV resident inspector program maintained 85 percent site continuity while experiencing a record turnover rate of almost 60 percent in CY 2023. Of 26 RI and SRI positions, 15 positions lost or gained a resident inspector. These circumstances, coupled with additional factors, resulted in significant site continuity challenges throughout the region. Specifically, eight Region IV resident program positions open in 2023 required two or more postings to fill. Additionally, seven Region IV resident program positions required reposting with elevated relocation incentive bonuses, including two positions at Arkansas Nuclear One (ANO), one position at Cooper Nuclear Station (Cooper), and one position at Grand Gulf Nuclear Station (Grand Gulf). These positions experienced (or continue to

experience) extended vacancies even while 50 percent relocation incentives were offered. Additionally, both historically harder to fill sites (Cooper, Grand Gulf, and Wolf Creek) and historically easier-to-fill sites (ANO, Comanche Peak, and Waterford) were adversely impacted.

While the record Region IV resident program turnover, resulting extended vacancies, and difficulties filling even historically easier-to-fill sites have significantly contributed to site continuity challenges, backfill resource availability has also contributed. Qualified resident inspector development program (RIDP) individuals are often used to provide site continuity at RI sites when vacancies or rotational assignments create site continuity gaps. Additionally, RIDP individuals are the direct source for new RIs. However, this resource pool was impacted by various departures primarily for other agency jobs and could not keep up with the record turnover. Specifically, Region IV began the year with six individuals in the RIDP, but only one of these individuals became an RI in Region IV (one left the agency, two left the resident program for another Region IV position, one left the RIDP for a headquarters promotion, and two individuals became RIs — one in Region II and one in Region IV). RIV supplemented these six RIDP resources with an additional nine new RIDP hires in 2023. Of these nine new RIDP hires, five individuals remain in the RIDP, two left the resident program for other Region IV positions, and two became Region IV RIs. As of the end of 2023, the Region IV RIDP had five individuals, but none were qualified and available for site continuity backfill, as their upfront training time (typically between 1 and 2 years) required before the RIDP personnel are qualified and available to provide site continuity. Hence, of the 10 total RIDP individuals that left Region IV's RIDP in 2023, six took NRC jobs outside Region IV's resident program, one left the NRC, and only three became Region IV RIs.

Other regional resources like qualified non-RIs and qualified rehired annuitants provided site continuity in many cases but had some limitations. Specifically, qualified reactor program resources covered many gaps at various sites, but this resource pool was limited by other baseline, infrequent, and supplemental inspection requirements. Additionally, Region IV has had success with using two rehired annuitants in 2023 to help supplement RI site continuity resources at numerous Region IV sites, but the rehired annuitant program limitations restrict this resource pool as well. Finally, Region IV RIs frequently took on developmental assignments that provided site continuity at different Region IV sites, but these assignments did not result in a net gain to regional site continuity, and not all developmental assignments were within the Region IV RI program. The region continues to utilize rehired annuitant resources, aggressively hire new RIDP individuals, focus on training, preparing, and qualifying RIDP individuals, and identify qualified and available agency staff to provide backfill and support to resident offices to mitigate the extended vacancies at multiple sites, which remain open in 2024 or have come open as of early 2024.

The following analyses articulate additional details for each of the seven

Region IV sites that fell below 90 percent continuity:

- At Arkansas Nuclear One (ANO), site continuity was provided approximately 68.5 percent of CY 2023. One of the two ANO permanent resident inspectors (RI) accepted a lateral transfer to the Callaway Plant (Callaway) for the open Callaway RI position on July 2, 2023. The SRI took a lateral position in the Region IV office on July 28, 2023. Both positions, which have historically been easier-to-fill, have been extremely difficult to fill in CY 2023. Specifically, the ANO SRI vacancy was posted a total of four times, including two times with a 50 percent relocation incentive, with no or almost no applicants each time. An SRI has been selected for the SRI position but is unable to report until June 15, 2024. The ANO RI vacancy was originally going to be filled by an interested RIDP individual, but housing and mortgage rate issues impacted the individual's ability to complete the move. The ANO RI vacancy has since been posted twice (once with a 20 percent relocation incentive and once with a 50 percent relocation incentive); however, the open RI position remains vacant as of the end of February 2024. With two of three RI program position vacancies open at the site for an extended period in CY 2023, it was extremely challenging for the region to ensure site continuity and complete the baseline inspection program at ANO despite the region's efforts to supplement resources.
- At the Cooper Nuclear Station, site continuity was provided 68.9 percent of CY 2023. The permanent SRI was promoted to a headquarters position on October 7, 2022, and the RI was promoted to the SRI position on November 20, 2022. The RI vacancy had to be reposted multiple times to include a 50 percent relocation incentive before it was eventually filled on August 13, 2023. A rehired annuitant acted as the RI for 26 days in the second quarter, but additional actors were unavailable for the balance of the CY.
- At Callaway, site continuity was provided approximately 73.4 percent of CY 2023. Following the departure of the SRI for a headquarters position on February 27, 2023, the RI was promoted to SRI. The RI position was vacant during the second quarter 2023 and the majority of the third quarter while a permanent RI was selected and while the incoming RI backfilled as SRI at South Texas Project. The incoming Callaway RI reported on September 10, 2023.
- At the Grand Gulf Nuclear Station, site continuity was provided approximately 77.8 percent of CY 2023. The permanent SRI transferred to another SRI position in Region II on May 27, 2023. The RI was promoted to the Grand Gulf SRI position on November 19, 2022, after the position was posted multiple times with a 50 percent relocation incentive. An actor covered a total of 57 days

during the second and third quarters. The RI position remains vacant as of the end of February 2024.

- At the South Texas Project, site continuity was provided approximately 87.1 percent of CY 2023. The resident office started 2023 fully staffed. Both the RI and SRI left the NRC on April 8, 2023, and June 17, 2023, respectively. Following their departures, Region IV assigned a RI actor for the third quarter until the permanent resident arrived, and an SRI actor was assigned in the fourth quarter. The permanent SRI reported at the end of 2023.
- At the River Bend Station, site continuity was provided approximately 87.3 percent of CY 2023. The permanent SRI conducted a supervisory developmental assignment in the regional office for approximately three months in the first and second quarters of 2023 before permanently transferring to Region IV for a lateral position on July 1, 2023. The permanent RI was promoted to SRI at the same time. The Waterford RI provided about 2.5 months of SRI backfill, and the new permanent RI reported to the site on July 30, 2023.
- At the Waterford Station, site continuity was provided approximately 87.5 percent of CY 2023. The permanent Waterford RI was selected for two developmental assignments during the year, including a two-month River Bend Station SRI rotation and an approximately 1.5-month assignment as a Technical Assistant in the NRR Division of Risk Assessment.

Resident staffing, both recruitment and retention, continues to be a key area of agency focus. Additionally in CY 2022, the staff evaluated this metric (ML22332A460) specifically at the request of the regional offices, and the working group recommended changes to it. IMC 0307 Appendix A was revised on June 14, 2023, to implement the recommendations, including renaming the metric, revising the requirement for acting resident inspectors to be onsite for a minimum of six weeks to two weeks to count for the metric, and maintaining the existing criterion for permanently assigned resident inspectors to be absent a minimum of six weeks before counting against the metric.

0307A-02 OPENNESS PERFORMANCE METRICS (O)

O-1 Issuance of Inspection Reports

Metric Status: Green

Definition: ROP inspection reports are issued within applicable timeliness goals.

Data and Analysis: In CY 2023, the agency issued 511 ROP inspection reports. Six of those inspection reports were not issued in accordance with the timeliness

requirements of IMC 0611. No single region or NSIR had more than three late inspection reports. Since the agency had fewer than 11 late inspection reports, and no region or office had more than five late inspection reports, this metric is green, and no region or office will be individually evaluated.

O-2 Issuance of Assessment Letters

Metric Status: Green

Definition: Annual and follow-up assessment letters are issued within the applicable timeliness goals.

Data and Analysis: In CY 2023, the agency issued 72 annual assessment letters and 14 follow-up assessment letters. These letters are listed on the NRC's public website of [assessment letters](#). All assessment letters were issued on time, in accordance with IMC 0305 requirements. Since the agency had fewer than three late assessment letters, and no region or office had more than one late assessment letter, this metric is green, and no region or office will be individually evaluated.

O-3 Conduct of Annual Assessment Meetings or Other Engagement Activities

Metric Status: Green

Definition: Public assessment meetings or other engagement activities that discuss the results of the NRC's annual assessment of the licensee's performance, are conducted annually for all sites.

Data and Analysis: In CY 2023, the agency held public assessment meetings or other engagement activities for 54 reactor sites. Some of these assessment meetings or activities were held virtually by NRC staff to interact with public stakeholders, and in some regions, the public engagement activities for most sites were held as a single combined meeting. Since all operating reactor sites had appropriate public engagement in CY 2023, this metric is green.

O-4 Issuance of ROP Public Meeting Notices

Metric Status: Green

Definition: ROP-related public meetings are noticed prior to the meeting and meeting summaries are posted after the meeting within the applicable timeliness requirements.

Data and Analysis: In CY 2023, the Office of Nuclear Reactor Regulation (NRR), NSIR, and regional staff held 55 ROP-related public meetings, some of them held virtually or as hybrid meetings. The staff noticed these public meetings within the established timeliness goal of 10 days for all public meetings held.

Since the percentage of timely notices is greater than 95%, and no region

or office had more than two untimely notices, this metric is green, and no region or office will be individually evaluated.

0307A-03 EFFICIENCY PERFORMANCE METRICS (E)

E-1 Completion of Supplemental Inspections

Metric Status: Green

Definition: Exit meetings for supplemental inspections are completed within 180 days from licensee notification of readiness.

Data and Analysis: In CY 2023, the agency completed 13 supplemental inspections. The exit meetings for these supplemental inspections were completed within the timeliness goal of 180 days from the date of licensee readiness. Since no more than one exit meeting did not meet the timeliness goal for the agency and no more than one exit meeting did not meet the timeliness goal for any region or office, this metric is green, and no region or office will be individually evaluated.

E-2 Completion of Temporary Instructions

Metric Status: Green

Definition: Temporary Instruction (TI) inspections associated with IMC 2201 and IMC 2515 are completed within the required TI completion time.

Data and Analysis: In CY 2023, there were no TIs in effect. Therefore, this metric is green.

/E-3 SDP Completion Timeliness for Potentially Greater-than-Green Findings

Metric Status: Yellow

Definition: The time from the identification date to the date a final significance determination is issued for all potentially greater-than-green (GTG) findings is within 255 days.

Data and Analysis: In CY 2023, the agency issued 17 final significance determinations for issues that were initially transmitted to the licensees as potentially GTG. Of these 17 findings, three exceeded the 255-day timeliness goal between identification date and final issuance: Browns Ferry Unit 1 EA-22-122 (ML23115A000), Columbia EA-21-170 (ML23111A237), and V. C. Summer EA-23-093 (ML23342A000). Therefore, this metric is yellow. Additionally, Region II had two issues that exceeded the timeliness goal which meets the threshold to be individually evaluated.

The main contributing cause for the Browns Ferry issue (EA-22-122) exceeding the metric was delay by the licensee in providing key causal evidence which had been requested by NRC staff early in the process. The lack of quality information impeded inspectors' abilities to identify a suitable performance deficiency in a timely manner.

For V. C. Summer (EA-23-093), the initial issue had no clear performance deficiency prior to January 10, 2023. Following that, unforeseen circumstances prevented multiple acting SRIs from providing the necessary review to disposition the issue. Only after conducting a significant technical review was the team able to identify a suitable performance deficiency. The two findings at Browns Ferry and V. C. Summer did not share an underlying common cause and therefore no additional actions are recommended for the region or program office.

DRO staff continue to engage with the regions on potentially GTG issues while those issues are in process. Additionally, as a result of an SDP timeliness review (ML22335A003), the staff made five recommendations to improve the SDP and the timeliness of potentially GTG findings. Most of those recommendations were implemented in CY 2023 with the remaining planned for implementation in CY 2024.

0307A-04 CLARITY PERFORMANCE METRICS (C)

C-1 Maintenance of ROP Web Pages

Metric Status: Green

Definition: ROP-related internal and external NRC Web pages are reviewed at least quarterly, and discrepancies are corrected as necessary to ensure that ROP information is communicated accurately and effectively.

Data and Analysis: In CY 2023, each region verified that the data available on the NRC public website for their reactor sites/units were accurate, up-to-date, and had working links. Any discrepancies or errors discovered by the regions were submitted for correction as appropriate. Currently, this page of [Inspection Reports](#) is populated with inspection reports by reactor site with links to the individual reports, and the [PIM Summary](#) shows an overview of ROP findings by cornerstone on a per unit basis with links to the overall performance summary per unit, as well as links to the list of findings summaries by cornerstone per unit. All applicable ROP-related webpages were reviewed by the regions on a quarterly basis. Of note, Vogtle Electric Generating Plant, Unit 4 transitioned from the cROP to the ROP during CY 2023 and has been added to the ROP public webpages.

NSIR staff are responsible for reviewing five ROP-related webpages: the internal security inspection program documents, [Generic Communications](#), the list of [Assessment Letters](#), the list of [Inspection Reports](#), and the [PI Data Summary](#). NRR staff are responsible for reviewing the plant summaries for each operating unit, currently 94 units, along with the [PIM Summary](#), the list of [Inspection Reports](#), the [Action Matrix](#), the list of [Assessment Letters](#), and the [Cross Cutting Issues](#) webpages. The staff verify that the data available are accurate, up to date, and have working links. All webpages were also reviewed at least quarterly, and any discrepancies or errors discovered by the staff were submitted for correction as appropriate. Since the percentage of ROP-related webpages reviewed at least quarterly by the staff is greater than 90%, this metric is green.

C-2 Maintenance of ROP Governance Documents

Metric Status: Green

Definition: Baseline inspection procedures (BIPs) and other ROP-related Inspection Procedures and Manual Chapters are reviewed at least once every 5 years.

Data and Analysis: As of December 31, 2023, there were a total of 3104 ROP-related Inspection Manual Chapters (IMCs) and IPs with 87 of those IMCs and IPs designated as ROP reference documents. Publicly available reference IPs are also designated as such on the NRC [public website](#). ROP documents that are reference only are not subject to the periodic 5-year review cycle in accordance with IMC 0040. Of the 223 documents subject to this metric, 173 were most recently issued between January 1, 2019, and December 31, 2023. Another 46 documents were reviewed by staff in CY 2023 and were still in the process of being revised and reissued as of December 31, 2023. Four documents had not been reviewed by staff in CY 2023 within the 5-year review requirement, which also subsequently requires a revision or a reissuance of the document. Since 98.2% of the ROP-related IMCs and IPs subject to this metric have been reviewed, which is greater than or equal to 95%, this metric is green.

0307A-05 RELIABILITY PERFORMANCE METRICS (R)

R-1 Predictability and Repeatability of Significance Determination Results

Metric Status: Green

Definition: Potentially greater-than-green inspection findings and the associated degraded conditions contain adequate detail to enable an independent auditor to trace through the available documentation and conclude that the significance characterization is reasonably justifiable from both programmatic and technical positions.

Data and Analysis: The staff determined that the 17 potentially GTG findings issued by the NRC in CY 2023 contained adequate detail to enable an independent auditor to trace through the available documentation and conclude that the significance characterization was reasonably justifiable from both programmatic and technical positions. This internal audit was documented in a memorandum dated February 13, 2024 ([ML24043A178](#), nonpublic). Since zero discrepancies in the significance determination were identified, this metric is green.

R-2 Predictability of Agency Actions and Response

Metric Status: Green

Definition: Deviations from the Action Matrix are expected to be infrequent to ensure reliable and predictable oversight.

Data and Analysis: In CY 2023, there were no ROP Action Matrix deviations. Therefore, this metric is green.

R-3 Supportability of Inspection Findings

Metric Status: Green

Definition: Inspection findings and violations under the ROP are adequately supported and documented such that findings and violations that are appealed or disputed by licensees are infrequently withdrawn.

Data and Analysis: In CY 2023, the staff issued a total of four determinations on findings or violations that were contested by licensees under the ROP. A violation at Callaway was contested by the licensee in CY 2022 and was later upheld in a Response Letter dated May 1, 2023 (ML23059A210). In CY 2023, a violation at Peach Bottom was contested by licensee and upheld in a Response Letter dated July 6, 2023 (ML23186A127). A violation at Grand Gulf was contested by the licensee and upheld in a Response Letter dated September 29, 2023 (ML23261A600). Finally, one licensee contested violation at River Bend was later rescinded in a Response Letter issued September 21, 2023 (ML23261B022), however a different violation will be written and documented in a future report to reflect appropriate enforcement of the issue.

Since no more than three contested violations were overturned and no more than two contested violations per region/office were overturned, this metric is green, and no region or office will be individually evaluated.