POLICY ISSUE
(Information)

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FOR: The Commissioners

FROM: Margaret M. Doane
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SUBJECT: REACTOR OVERSIGHT PROCESS SELF-ASSESSMENT FOR CALENDAR YEAR 2018

PURPOSE:

This paper presents the results of the U.S. Nuclear Regulatory Commission (NRC) staff's annual self-assessment of the Reactor Oversight Process (ROP) for calendar year (CY) 2018. In addition, consistent with the Commission direction in SRM-COMSECY-16-0022, "Proposed Criteria for Reactor Oversight Process Changes Requiring Commission Approval and Notification," dated May 12, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17132A359), this paper notifies the Commission of the staff's intent to perform a limited CY 2019 ROP self-assessment. The limited assessment enables the staff to reallocate resources to two related projects: (1) the ROP enhancement initiative, and (2) a complete, holistic review of the ROP self-assessment program. This paper does not address any new commitments or resource implications.

SUMMARY:

The results of the CY 2018 self-assessment indicate that the ROP was implemented in accordance with applicable governance documents and provided objective, risk-informed, understandable, and predictable oversight. Given the current efforts in the ROP enhancement

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initiative, the staff intends to perform a limited ROP self-assessment for CY 2019, consisting of the ROP metrics, ROP program area evaluations, and one effectiveness review. During CY 2019, the staff intends to use the resources saved from performing the limited ROP self-assessment to continue work on the ROP enhancement initiative and to perform a complete, holistic review of the ROP self-assessment program. The staff anticipates that a holistic review of the ROP self-assessment program will find opportunities to reduce redundancy, provide clear guidance for the execution of the ROP self-assessment program elements, better measure ROP effectiveness and implementation, and better leverage technology. Any improvements identified during the holistic review will be implemented for the CY 2020 ROP self-assessment cycle.

BACKGROUND:

The ROP is mature and effective. It ensures that U.S. commercial nuclear power plants operate safely, securely, and in accordance with applicable regulations. A leading contributor to the effectiveness of the ROP is the opportunity for continuous feedback from both internal and external stakeholders. An important source of internal stakeholder feedback on implementation and effectiveness of the ROP is the self-assessment program. To facilitate external feedback on the ROP, the staff focuses on how to provide effective communications by, for example, maintaining a robust ROP website, holding public meetings, participating at the annual Regulatory Information Conference, and communicating at other public events.

The ROP self-assessment program includes an annual assessment to ensure that the staff reliably and consistently implements the ROP across all four NRC regional offices and NRC Headquarters. The staff issues an annual ROP self-assessment Commission paper containing the results of the staff's ROP self-assessment for the preceding calendar year. Additionally, NRC senior management briefs the Commission annually on the results of the ROP self-assessment and other topics related to the ROP following the Agency Action Review Meeting (AARM). The ROP self-assessment program applies to all seven ROP cornerstones, (initiating events, mitigating systems, barrier integrity, emergency preparedness, public radiation, occupational radiation, and security) which are the essential safety aspects of plant operation measured by the ROP, and to all processes and procedures used to implement the ROP. Inspection Manual Chapter (IMC) 0307, "Reactor Oversight Process Self-Assessment Program," dated November 23, 2015 (ADAMS Accession No. ML15216A347), and its appendices (Appendix A, "Reactor Oversight Process Self-Assessment Metrics," Appendix B, "Reactor Oversight Process Baseline Inspection Procedure Reviews," and Appendix C, "Reactor Oversight Process Self-Assessment Regional Peer Reviews,") (ADAMS Accession Nos. ML17186A115, ML17165A508, and ML16147A455, respectively) describe the self-assessment process. This annual self-assessment fulfills the programmatic requirements in IMC 0307 and its appendices, as well as the requirements described in Appendix C, "Planned Program Reviews," of the NRC Strategic Plan, NUREG-1614, Volume 7, "Strategic Plan: Fiscal Years 2018–2022," issued February 2018 (ADAMS Accession No. ML18032A561).

The ROP self-assessment consists of three program elements. The first program element measures the effectiveness and implementation of the current ROP through the analysis of metrics and the performance of program area evaluations. The second element directs staff to monitor long-term revisions to the ROP and to perform effectiveness reviews of recent changes to the ROP. The third and final element directs the staff to perform focused assessments of selected aspects of the ROP, including baseline inspection procedure (IP) assessments, and to conduct formal peer reviews of regional offices.

CY 2018 ROP SELF-ASSESSMENT RESULTS:

The staff performed a comprehensive and robust self-assessment in accordance with IMC 0307 and its appendices. Data sources for the ROP self-assessment for CY 2018 included: the objective ROP performance metrics; insights and lessons learned from internal and external stakeholder feedback; regional representatives; and program leads.

The results of the CY 2018 self-assessment indicate that the ROP was implemented in accordance with applicable governance documents and provided objective, risk-informed, understandable, and predictable oversight. The discussion below, categorized by self-assessment program element, details the CY 2018 ROP self-assessment results.

Element 1: Measure the Effectiveness of and Adherence to the Current ROP

ROP Performance Metrics

The staff measured the effectiveness of, and adherence to, the current ROP program using objective metrics, which are aligned with the NRC's Principles of Good Regulation (independence, openness, efficiency, clarity, and reliability) and described in IMC 0307, Appendix A. Appendix A to IMC 0307 employs a graded approach to measure performance with Green (expected performance), Yellow (performance requiring further evaluation), and Red (unexpected performance requiring staff action to correct) criteria for each metric. The ROP Performance Metric Report for CY 2018, dated March 19, 2019 (ADAMS Accession No. ML19044A565), provides data and staff analysis for each ROP metric.

The staff found that the ROP met or exceeded expected performance (Green) criteria in 25 out of the 26 performance metrics. The staff found the metric associated with "Responsiveness to ROP Feedback Forms" (efficiency performance metric 6 (E-6)) to be Red for the second year in a row.[1] CY 2018 is also the second year that data were collected for this metric. The staff received 59 new feedback forms in CY 2018 and dispositioned 13 of them within 12 months (22 percent, Green metric is greater than 90 percent). The staff closed 57 total feedback forms in CY 2018 and as of February 1, 2019, there are 229 feedback forms in the backlog. Overall, the total number of feedback forms in the backlog remained unchanged from CY 2017 to CY 2018.

Most of these feedback forms were generated as a result of ROP improvement initiatives completed since 2014, including the 2014 significance determination process (SDP) business process improvement review report (ADAMS Accession No. ML14318A512), the ROP Independent Assessment report issued in 2014 (ADAMS Accession No. ML14035A571), and the ROP enhancement project which concluded in 2015, which is described in Enclosure 2 to SECY-16-0047, "Reactor Oversight Process Self-Assessment for Calendar Year 2015," dated April 27, 2016 (ADAMS Accession No. ML16054A688). A significant number of ROP feedback forms were also generated in response to recommendations from the Government Accountability Office audit, "Nuclear Power: Analysis of Regional Differences and Improved Access to Information Could Strengthen NRC Oversight" (GAO-13-743, ADAMS Accession No. ML14059A299), as well as an NRC Office of the Inspector General audit, "Survey of NRC's Support Provided to Resident Inspectors" (OIG-14-A-12, ADAMS Accession No.

[1] A feedback form is a method the staff may use to identify issues that need program-level attention and to suggest changes to improve the effectiveness or implementation of the Agency inspection programs. IMC 0801, "Inspection Program Feedback Process" (ADAMS Accession No. ML15147A104) describes the use of feedback forms.

ML14077A293).

Under the current process, in order to close a feedback form the staff must incorporate changes to IMCs or IPs. In some cases, a significant number of feedback forms are linked to revisions currently in process that involve significant programmatic changes, which creates a backlog or buildup of feedback forms. For example, 50 feedback forms are associated with pending changes to IMC 0612, "Issue Screening" (ADAMS Accession No. ML17122A246), which is currently under revision.

In order to work through the backlog and process feedback more efficiently, the staff continues to take actions such as prioritizing resolution of all feedback forms tied to specific IP and IMC documents undergoing revisions, and providing increased engagement with monthly ROP feedback form disposition status update meetings with Division management. Staff is currently performing a detailed review of the feedback form backlog to identify feedback forms which may be obsolete due to other ROP changes, or which may be able to be dispositioned in the near term. Additional guidance detailing expectations for IP and IMC leads in DIRS will include a discussion on timely disposition of feedback forms. The staff determined that the current metric for feedback forms may not be an effective measure of performance because it does not consider the backlog. Rather, the current metric only measures feedback forms created, and subsequently resolved, in the calendar year. As part of the holistic review, the staff is evaluating more meaningful metrics with which to measure the efficiency of the feedback form process.

The staff expects that the ROP enhancement initiative efforts will likely resolve backlogged ROP feedback forms in the areas of supplemental inspections, radiation health, and others. However, the ROP enhancement effort will also likely delay disposition of feedback forms in the area of problem identification and resolution (PI&R) through CY 2019 due to a holistic review of the PI&R inspection procedures, which the staff plans to initiate in CY 2019. These delays may impact the performance against the E-6 metric for CY 2019, however, as noted above, the staff will continue efforts to improve performance in this area. Finally, the staff has initiated a transformative effort to evaluate the ROP feedback form procedure, IMC 0801, "Inspection Program Feedback Process," dated December 19, 2016 (ADAMS Accession No. ML15147A104), for process improvements to increase efficiency in processing and incorporating ROP feedback. The staff expects to identify these changes to IMC 0801 by the end of CY 2019.

ROP Program Area Evaluations

The staff completed the ROP program area evaluations in accordance with the second aspect of Element 1 of the self-assessment process. The staff used the annual ROP metrics report and other relevant feedback to evaluate the effectiveness of each of the four major program areas of the ROP: the Performance Indicator (PI) program; the inspection program; the SDP; and the assessment program. The program area evaluations also summarize changes to the program, current and future focus areas, and recommendations for improvement. The text below summarizes the ROP program area evaluations and the enclosure to this paper provides the evaluations in full.

The PI program continued to provide insights into plant safety and security in CY 2018. NRC inspectors independently verified that plants were operated safely and securely. NRC inspectors completed the baseline inspection program for all four NRC regions and the Office of Nuclear Security and Incident Response (NSIR) within the allocated resources. The SDP continued to be an effective, risk-informed process for determining the safety and security

significance of inspection findings identified in the ROP. The NRC identified 475 inspection findings nationwide in CY 2018, with more than 99 percent determined to be of very low safety or security significance (Green). The assessment program continued to ensure that the NRC and licensees provided appropriate regulatory oversight to address performance issues commensurate with their significance. No deviations to the Action Matrix were issued during the year. During CY 2018, Pilgrim Station remained in the Multiple/Repetitive Degraded Cornerstone (Column 4) of the ROP Action Matrix, while Arkansas Nuclear One, Units 1 and 2, transitioned from Column 4 to the Licensee Response Column (Column 1).

Element 2: Monitor ROP Revisions and Assess Effectiveness of Recent Program Changes

Monitor ROP Revisions

As required by IMC 0307, the staff monitored the status of longer-term program change recommendations resulting from more complex ROP feedback, including recommendations from independent evaluations, significant reviews, supplemental and reactive inspection lessons-learned reports, regional peer review reports, and other significant feedback. The staff tracks the status of these longer-term program recommendations in a lessons-learned tracker with a focus on timely evaluation and disposition. Recommendations from the Region I evaluation of the conduct of IP 95003, "Supplemental Inspection for Repetitive Degraded Cornerstones, Multiple Degraded Cornerstones, Multiple Yellow Inputs or One Red Input," dated December 18, 2015 (ADAMS Accession No. ML15188A400) at Pilgrim Station, which are contained in a memorandum dated June 6, 2018 (ADAMS Accession No. ML18157A040), were entered into the ROP lessons learned tracker in CY 2018 for evaluation and disposition. The staff closed several lessons learned from the tracker in CY 2018, including the last of the lessons learned from SDP Business Process Improvement Review (ADAMS Accession No. ML14318A512). This lessons-learned tracker, in conjunction with the ROP feedback form process, ensures that ROP improvement recommendations are gathered, assessed, and tracked to completion.

Assess Effectiveness of Recent Program Changes

The second aspect of Element 2 of the ROP self-assessment process is to evaluate the effectiveness of recently implemented ROP changes to ensure that the intended results have been realized and to evaluate any unintended consequences. The topics for the CY 2018 effectiveness reviews included the Inspection Finding Resolution Management (IFRM) pilot under the SDP, which was chosen to evaluate the pilot of the IFRM process; the conduct of inspections under IP 95001, "Supplemental Inspection Response to Action Matrix Column 2 Inputs," dated August 24, 2016 (ADAMS Accession No. ML15223B348), which was chosen because the staff identified an inconsistency in regional success rates in completing IP 95001 inspections; and the implementation of the safety culture common language initiative, which was chosen to assess the effectiveness of recent changes to the safety culture program. The results of these reviews are described below.

Effectiveness Review of the Inspection Finding Resolution Management Process

In CY 2017, the staff conducted a trial period of the IFRM process, which it developed to

improve the efficiency and effectiveness of the SDP.[2] After the trial period concluded in December 2017, the Office of Nuclear Reactor Regulation (NRR) staff formed a multi-disciplinary team to conduct an effectiveness review to evaluate the trial period and determine whether the IFRM process should be incorporated into ROP governance documents. The team solicited external stakeholder feedback prior to the effectiveness review and considered the feedback in the development of its recommendations.

The IFRM pilot effectiveness review team documented its results in a memorandum dated May 9, 2018 (ADAMS Accession No. ML18123A319). The team concluded that the IFRM pilot was effective in ensuring early alignment on, and more efficient dispositioning of, Greater-than-Green findings, and that the process should be permanently incorporated into the ROP. Accordingly, the staff revised the appropriate IMCs, effective January 1, 2019, to permanently implement the IFRM process across all ROP cornerstones.

Effectiveness Review of the Closure of Inspections under Inspection Procedure 95001

In CY 2018, in response to feedback from external and internal stakeholders, a team of NRC regional and Headquarters personnel conducted an effectiveness review of recent changes to IP 95001. The review team concluded that, although the staff had implemented the IP correctly, several enhancements could be made. The review team provided the following recommended procedure changes: (1) consider the use of inspectors from other regions to perform IP 95001 inspections, (2) remove expectations for licensees to conduct a root cause evaluation to address issues being reviewed as part of a IP 95001 inspection, and (3) reduce inspection hours allocated for a single White ROP Action Matrix input. The recommendations for procedure changes are currently under review by headquarters and regional staff. The team documented its results in a memorandum dated March 7, 2019 (ADAMS Accession No. ML19043A925).

Effectiveness Review of the Implementation of the Safety Culture Common Language Initiative

In March 2014, the staff published NUREG-2165, "Safety Culture Common Language" (ADAMS Accession No. ML14083A200), which documents the outcomes of a series of public workshops co-hosted by NRR, the Institute for Nuclear Power Operations, and the Nuclear Energy Institute (NEI). The goal of this initiative was to align terminology between the NRC's inspection and assessment processes with the terminology used in the industry's assessment process and develop one set of collective terms and definitions.

The effectiveness review approach incorporated the results from a regional inspector survey that NRR's Reactor Assessment and Human Factors Branch conducted to gain insight on the effectiveness of the safety culture common language initiative. The survey results indicated that the safety culture common language is viewed favorably across all four NRC regions, and that the changes made to the previous language were deemed as improvements. In addition to the survey, the staff solicited feedback on the safety culture common language initiative from industry representatives, including NEI, and other external stakeholders at monthly ROP public meetings for the purposes of the effectiveness review. The staff did not identify any additional

[2] This effort was in response to Commission direction to streamline the SDP (ADAMS Accession No. ML14262A078); subsequent Commission direction to pilot proposed revisions to the SDP by holding public meetings or workshops on the proposed revisions (ADAMS Accession No. ML15231A108), and staff recommendations from a process improvement review of the SDP (ADAMS Accession No. ML14318A512).

areas for improvement or actions associated with this initiative. The staff documented its review in a memorandum, "Results of the Calendar Year 2018 Reactor Oversight Process Self-Assessment Effectiveness Reviews on the Safety Culture Common Language and Safety Culture Assessor Qualification Program/IMC 1245," dated January 9, 2019 (ADAMS Accession No. ML18219A687).

Element 3: Perform Focused Assessments and Peer Reviews of Regional Offices

In CY 2018, the staff conducted a regional peer review and a baseline IP assessment as prescribed in IMC 0307. Additionally, although NRR did not conduct a focused assessment for CY 2018, NSIR did conduct an off-cycle focused assessment of the emergency preparedness (EP) SDP to provide a "fresh look" into the effectiveness of the EP SDP. The following summarizes the results of the Region III regional peer review, the baseline inspection procedure assessment, and the NSIR EP SDP focused assessment.

Region III Peer Review Results

In September 2018, the staff conducted a peer review of Region III's implementation of the operating reactor inspector area, which included reviewing documents and procedures, auditing databases, and interviewing staff members. In accordance with IMC 0307, Appendix C, the review team selected four focus areas: (1) review and closure of licensee event reports; (2) end-of-cycle execution; (3) management review process of potential inspection findings; and (4) training and qualification of inspectors. The team also assessed the adequacy of NRR's support and guidance to the regional office. Finally, the team evaluated Region III's response to the recommendations from the CY 2016 Region II peer review to determine whether the regional peer reviews are effective in ensuring consistent implementation of the ROP across all four NRC regions.

The team concluded that Region III is successfully executing and implementing the ROP in accordance with the associated program documents. The team identified six strengths and seven areas for improvement to be considered by Region III and shared with the other regional offices to enhance consistency. Examples of strengths noted by the team were Region III's approach to its end-of-cycle meetings, which occur over three half-day sessions, Region III's implementation of the IFRB and IFRM processes, and Region III's listing of qualified inspectors to ensure annual refresher training is completed. Examples of areas for improvement were to evaluate the use of independent peer review for inspection findings and to consider formal tracking of plant events/issues that will not initially screen to Green from time of occurrence or discovery (prior to identification of a performance deficiency). The review team also identified 10 program recommendations for consideration by the program office, including clarifications for ROP program documents and policy issues, Operating Experience Branch remote participation in EOC meetings, and clarity regarding low risk compliance issues faced by inspectors. These recommendations will be considered by the program office.

Consistent with Commission direction in "Staff Requirements Memorandum – Briefing on Results of the Agency Action Review Meeting (AARM), 9:00 A.M., Thursday, June 15, 2017, Commissioners' Conference Room, One White Flint North, Rockville, Maryland (Open To Public Attendance)" dated June 27, 2017 (ADAMS Accession No. ML17178A453), the staff reviewed the scope of the Region III peer review and leveraged complementary activities such as regional counterpart meetings, when possible. The staff continues to review the scope of the regional peer reviews, and this review has been included in the holistic review of the ROP self-assessment program, which is described in the "Plan to Conduct a Limited ROP

Self-Assessment for CY 2019" section of this paper.

Baseline Inspection Procedure Assessment Results

The staff performed a baseline inspection procedure assessment in accordance with IMC 0307, Appendix B, with the objective to evaluate the effectiveness of the baseline IPs. Baseline IP effectiveness is measured through analysis of data related to inspection hours and inspection findings for each IP, feedback from regional and other internal stakeholders, recent ROP changes, and any other feedback that may provide insights for procedural improvements. The staff summarized the results of this assessment, including a number of recommendations for improvements to the baseline IPs, in a memorandum dated March 12, 2019 (ADAMS Accession No. ML18352A926). Examples of recommendations from the baseline IP assessment results include (1) appropriate increases or decreases in the resource estimates for various baseline IPs to reflect actual resources expended, respectively, (2) incorporation of changes based on internal and external feedback for IP 71130.11, "Materials Control and Accountability," and (3) a recommendation to evaluate whether two-unit sites are being given sufficient resources to appropriately review LERs (IP 71153, "Follow-Up of Events and Notices of Enforcement Discretion"). In order to align resources efficiently, the baseline IP recommendations will be dispositioned by an appropriate concurrent initiative, such as the ROP enhancement effort discussed in the "ROP Enhancement Initiative" section of this paper; the Engineering Inspection Working Group effort discussed in the "Engineering Inspection Focused Assessment Update" section of this paper; the NSIR security baseline inspection improvement effort discussed in the "Security Baseline Inspection Program" section of the enclosure to this paper; or by the appropriate staff baseline IP lead if not related to the above initiatives.

Emergency Preparedness Significance Determination Process Focused Assessment

Based, in part, on a letter from NEI, "Recommendations for Improving the Emergency Preparedness Significance Determination Process," dated December 12, 2017 (ADAMS Accession No. ML17354A094), the staff initiated a focused assessment of the EP SDP. The EP SDP focused assessment team developed a review and evaluation plan, which is described in the team's charter, dated June 7, 2018 (ADAMS Accession No. ML18149A392). As part of the EP SDP focused assessment, the team conducted procedure reviews and EP inspector surveys, and provided opportunities during public meetings for external stakeholders to provide comments and suggestions for consideration. Specifically, the team reviewed EP SDP procedures and basis documents for accuracy and adequacy, reviewed the EP inspector training and qualification program from the perspective of EP SDP knowledge requirements, and took into consideration public comments and additional NEI recommendations and whitepapers submitted to the staff in the area of the EP SDP during the period of the focused assessment (ADAMS Accession Nos. ML18295A568, ML18114A049, and ML18254A348).

The team documented its conclusion that the EP SDP is an adequate process in a memorandum, "Results of the Calendar Year 2018 Reactor Oversight Process Focused Self-Assessment on the Emergency Preparedness Significance Determination Process," dated February 1, 2019 (ADAMS Accession No. ML18331A374). The team also identified a number of potential enhancement opportunities for the EP SDP in Table 1, "Item Tracking," of the memorandum dated February 1, 2019. Two examples of recommendations for consideration from the team included (1) revising the significance determination process such that only deficiencies against planning standards that have direct consequences on public health and safety can result in a greater-than-green finding, and (2) revising regulations such that only changes affecting planning standards that have direct consequences on public health and

safety would require formal review under 10 CFR 50.54(q). A number of recommendations from the report which do not require Commission notification or approval have already been implemented or are in process, including leveraging web-based tracking tools for EP issue tracking and resource coordination, as well as improvements to the EP inspector training and qualification process. Recommendations selected for consideration from the team's report may be pursued as part of the ROP enhancement initiative and presented for approval therein.

Other Related Activities

ROP Enhancement Initiative

The NRC's Executive Director for Operations established the Transformation Team in a memorandum dated January 25, 2018 (ADAMS Accession No. ML18029A106). The team was tasked with identifying potential transformational changes to the NRC's regulatory framework, culture, and infrastructure to further enhance effectiveness, efficiency, and agility in regulating novel technologies, as described in the team's charter, dated February 22, 2018 (ADAMS Accession No. ML18044A984, not publicly available). Subsequently, in SECY-18-0060, "Achieving Modern Risk-Informed Regulation," dated May 23, 2018 (ADAMS Accession No. ML18110A187), the staff detailed the initial efforts of the Transformation Team, requested Commission approval to move forward with a number of initiatives, and in Enclosure 6 (ADAMS Accession No. ML18110A299), provided a short summary of recommendations received under the initiative, including those in the area of the ROP. From this effort, the Transformation Team referred 72 recommendations for enhancing the ROP (ADAMS Accession No. ML18292A594) to NRR for evaluation and disposition. Separately, NEI provided 27 additional recommendations to NRR for improvements to the ROP in a letter dated September 19, 2018 (ADAMS Accession No. ML18262A322). Notably, this internal and external stakeholder feedback indicates that the ROP remains sound; however, stakeholders also identified a number of enhancements they believe would make the ROP more effective and efficient. The NRC staff initiated the ROP enhancement initiative to further evaluate these potential improvements.

The ROP enhancement initiative team binned the recommendations into eight thematic areas: assessment, Mitigating Systems Performance Index (MSPI), SDP, ROP inspection, EP, radiation protection, security, and independent spent fuel storage installation oversight. The team's vision is for the ROP to be more risk-informed and performance-based, and to better consider the NRC's Principles of Good Regulation. Specific objectives to support this vision include: (1) focusing NRC and industry resources on issues of higher safety significance, (2) resolving issues of relatively low safety significance in a more timely manner, (3) enhancing the SDP with improved risk assessment tools, (4) increasing the efficiency and effectiveness of baseline and supplemental inspection programs, and (5) improving communication between the NRC and industry on oversight matters. The ROP enhancement initiative team will prepare a Commission paper detailing the efforts of the initiative. The team anticipates sending this paper to the Commission in June 2019.

Construction ROP and Transition to New Reactor Oversight

Similar to the ROP for operating reactors, the staff implements the Construction Reactor Oversight Process (cROP) for the oversight of new reactors that are under construction. The staff discusses the results of the cROP self-assessment in a separate annual Commission paper.

In February 2018, the NRC Office of New Reactors and Region II, in coordination with the Office of General Counsel, NRR, and NSIR, established the Vogtle Readiness Group (VRG). The VRG charter, dated March 12, 2018 (ADAMS Accession No. ML18059A273), describes how the VRG identifies and resolves licensing, inspection, or regulatory challenges or gaps that could impact the schedule for completion of Vogtle Electric Generating Plant, Units 3 and 4. The VRG is made up of senior leadership in each of the key NRC Offices involved in transitioning and providing oversight from construction to commercial operations. The VRG also serves as the focal point to ensure the effective communication of status and issues across NRC offices and with NRC management, the Commission, the licensee, and external stakeholders.

ROP for New Reactors

In SECY-18-0091, "Recommendations for Modifying the Reactor Oversight Process for New Large Light Water Reactors with Passive Safety System Such as the AP1000 (Generation III+ Reactor Designs)," dated September 12, 2018 (ADAMS Accession No. ML17166A238), the staff recommends eliminating MSPIs for new reactors, while maintaining the other 12 PIs that were previously confirmed to be easily applicable to new reactor designs with minimal revision to the PI guidelines in NEI 99-02. As provided in SECY-18-0091, the staff focused its efforts to recommend changes to the ROP for new reactors on the AP1000 design, but the process used to develop recommended changes to the ROP would be identical for other Generation III+ designs. The staff recommends that no new PIs be developed to replace the MSPIs pending availability of more AP1000 performance data. The staff also summarized changes being considered to the baseline inspection program for the AP1000. Because there are fewer components to sample in the AP1000 design, which uses passive safety features, active defense-in-depth systems, and has core damage frequencies that are lower than those of operating reactors, the staff expects to reduce baseline IP sample sizes. The staff will make the necessary revisions to the ROP after receiving Commission direction on SECY-18-0091.

Engineering Inspection Focused Assessment Update

In CY 2017, beginning as a focused assessment effort under the ROP self-assessment program, the staff performed a holistic review of engineering inspections and approaches to process improvement, including (1) leveraging performance indicators to reduce direct inspection, (2) improving the efficiency and effectiveness of direct inspection, and (3) integrating licensee self-assessments into the engineering inspections. The staff also reviewed resources, the program governance documents, and regional operating procedures. In addition to other public outreach efforts such as public meetings, the staff highlighted its activities at the 2018 Regulatory Information Conference with a poster session and a technical session on the engineering inspection program holistic review.

Based on these efforts, the staff issued SECY-18-0113 "Recommendations for Modifying the Reactor Oversight Process Engineering Inspections," dated November 13, 2018 (ADAMS Accession No. ML18144A567), recommending the following changes to the overall approach and focus of the engineering inspections within the ROP: (1) modification of the engineering inspections from the current 3-year cycle to a 4-year cycle; (2) inspection consolidation, elimination of several inspection activities, and the development of two new types of inspections to be performed during the 4-year cycle: the comprehensive engineering team inspection and the focused engineering inspection; and (3) focusing engineering inspection efforts towards operating experience, aging management, and facility changes.

Leveraging Technology in Inspection Tracking and Documentation

Beginning in 2017, to reduce reliance on manual data entry processes and to increase efficiency and effectiveness, staff in the Division of Inspection and Regional Support, with input and feedback from regional staff, began work on an initiative to automate aspects of the inspection sample tracking and inspection report process, including the Inspection Sample Tracking and Reporting (ISTAR) module within the Reactor Program System (RPS) – Inspections (RPS-Inspections) data management system. Previously, staff created inspection reports in Microsoft Word, and then information contained in the inspection report was manually entered into RPS-Inspections. That information was eventually audited for accuracy, including annual verification of baseline inspection completion for all operating reactors.

Throughout CY 2018, DIRS and regional staff continued development, testing, and training for the ISTAR module within the RPS-Inspections data management system. ISTAR capabilities include inspection report automation, central storage of inspection-related data, improved management and tracking of inspection samples, some standardized inspection report language, inspection report review, and approval capability. From November 2018 to January 2019, the staff conducted operational testing of the ISTAR system for familiarization and training. The ISTAR module went live in January 2019, and all ROP inspection reports issued subsequently will utilize the automated ISTAR inspection report generator.

ISTAR is expected to significantly reduce the resource effort in auditing and validating inspection completion data and reporting.

CY 2018 ROP SELF-ASSESSMENT CONCLUSIONS:

The self-assessment results for CY 2018 indicate that the ROP provided effective oversight of operating reactors by meeting the program goals, achieving its intended outcomes, and identifying areas for improvement. The ROP ensured openness and effectiveness in supporting the agency's mission and its strategic goals of safety and security, and the staff completed the planned program reviews in accordance with IMC 0307 and its appendices, as well as Appendix C to the NRC Strategic Plan for 2018-2022 (NUREG-1614, Volume 7).

PLAN TO CONDUCT A LIMITED ROP SELF-ASSESSMENT FOR CY 2019:

As described in SECY-15-0156, "Improvements to the Reactor Oversight Process Self-Assessment Program," dated December 11, 2015 (ADAMS Accession No. ML15310A086), the staff completed a review of the ROP self-assessment program during a Commission-approved suspension of the program in CY 2014 and outlined its improvements to the program. The staff used the 2015 revision of the ROP self-assessment program to conduct the self-assessment described in this paper.

With 3 years of data from ROP self-assessments conducted under the 2015 program revision, the staff initiated an effectiveness review of the program in November 2018 to evaluate the effectiveness of the IMC 0307 revision. The staff concluded that while the changes to the ROP self-assessment program were effective and resulted in tangible improvements, additional improvements could be made to better match the ROP self-assessment program resource requirements to the maturity of the ROP. As a result, the staff formed an ROP self-assessment holistic review team, with the objective of identifying additional opportunities to streamline the

current self-assessment methodology while increasing efficiency, aligning review and assessment periodicities, and refreshing the ROP metrics to better measure ROP effectiveness and leverage technology. Additionally, the staff believes that conducting a holistic review of the self-assessment program in conjunction with the ROP enhancement initiative will ensure a unity of effort in change identification and management.

Accordingly, the staff plans to conduct a limited ROP self-assessment for CY 2019, consisting of Element 1 of the current ROP self-assessment program, which includes the program metrics and the ROP program area evaluations.[3] The staff also plans to conduct a CY 2019 effectiveness review of recent changes made to the cross-cutting issues (CCI) program in response to internal stakeholder feedback. Since the focus and timing of an effectiveness review of the CCI program aligns with the goals of the ROP enhancement initiative, the staff determined that it should not be delayed. This limited self-assessment will allow the staff to prioritize resources for the ROP enhancement initiative and the holistic review of the self-assessment program. The staff intends to complete the holistic review on a timeline which allows for alignment and approval for the programmatic changes and implementation of the program improvements in time for the CY 2020 ROP self-assessment cycle.

Consistent with the Commission direction in SRM-COMSECY-16-0022, the staff will provide an information paper to the Commission describing the results of the holistic review of the ROP self-assessment program and any associated changes that will be incorporated into ROP program governance documents, such as IMC 0307 and its appendices.

COORDINATION:

The Office of the General Counsel has reviewed this Commission paper and has no legal objection. The Office of the Chief Financial Officer has reviewed this Commission paper and has no objections.

Margaret M. Doane

Margaret M. Doane
Executive Director
for Operations

Enclosure:
Reactor Oversight Process
Program Area Evaluations

[3] In transitioning to the revised IMC 0307 ROP self-assessment program in CY 2015, the staff conducted a limited ROP self-assessment consisting of Element 1 of the program (ROP metrics and program area evaluations), and issued SECY-16-0047, "Reactor Oversight Process Self-Assessment for Calendar Year 2015," dated April 8, 2016 (ADAMS Accession No. ML16054A693), documenting these results.

SUBJECT: REACTOR OVERSIGHT PROCESS SELF-ASSESSMENT FOR CALENDAR YEAR 2018 DATED: April xx, 2019

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Package No.: ML19042A100
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