POLICY ISSUE
INFORMATION

April 18, 2014 SECY-14-0047

FOR: The Commissioners

FROM: Mark A. Satorius */RA/*
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SUBJECT: REACTOR OVERSIGHT PROCESS SELF-ASSESSMENT FOR CALENDAR YEAR 2013

PURPOSE:

The purpose of this paper is to present 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) 2013.

SUMMARY:

The results of the CY 2013 self-assessment indicate that the ROP met its program goals and achieved its intended outcomes. The staff found that the ROP met the agency's strategic goals of ensuring safety and security through objective, risk-informed, understandable, and predictable oversight. The staff implemented several ROP improvements in CY 2013, and will continue to solicit input from the NRC's internal and external stakeholders and evaluate recommendations from independent evaluations to further improve the ROP based on feedback and lessons learned.

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BACKGROUND:

The staff performed the CY 2013 self-assessment in accordance with Inspection Manual Chapter (IMC) 0307, "Reactor Oversight Process Self-Assessment Program," dated March 23, 2009. The staff has issued an ROP self-assessment Commission paper every year since the NRC implemented the ROP in 2000, and staff has briefed the Commission annually on the results following the Agency Action Review Meeting (AARM). The Commission provides the staff with direction in the form of a staff requirements memorandum (SRM) as a result of the briefing. In SRM M130529, "Briefing on the Results of the Agency Action Review Meeting," dated June 13, 2013 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13164A337), the Commission directed the staff to review implementation of the Industry Trends Program over its history for lessons learned and inform the Commission of any program enhancements or resource reductions that may be warranted. The staff's response to this request is contained in the fiscal year (FY) 2013 Industry Trends Program results paper that complements this paper. In addition, the Commission directed the staff to pursue an independent review of the ROP's objectives and implementation in its SRM to SECY-12-0081, "Risk-Informed Regulatory Framework for New Reactors," dated October 22, 2012 (ADAMS Accession No. ML12296A158). The staff's response to this request is discussed in this paper.

The ROP self-assessment program uses program evaluations and performance metrics to evaluate the overall effectiveness of the ROP in meeting its preestablished goals and intended outcomes. The ROP includes the four specific program goals of being objective, risk-informed, understandable, and predictable, as well as the applicable organizational excellence objectives (e.g., openness and effectiveness) from the NRC's Strategic Plan for Fiscal Years (FY) 2008–2013. The program goals and organizational excellence objectives support the NRC's mission and its strategic goals of safety and security. The goals and objectives are also consistent with the NRC's Principles of Good Regulation—to be independent, open, efficient, clear, and reliable. IMC 0307 also specifies the intended outcomes of the ROP, which help form its basis and are incorporated into the ROP processes.

DISCUSSION:

The staff conducted numerous activities and obtained data from many sources to ensure that it performed a comprehensive and robust self-assessment for CY 2013. Data sources included the ROP performance metrics described in IMC 0307, internal and external stakeholder feedback, and direction and insight that the Commission has provided in recent years. The staff analyzed this information to gauge ROP effectiveness and identify potential areas for improvement. The scope of the staff's self-assessment included key ROP program areas, ROP communication activities, independent and focused evaluations, ROP resources, and resident inspector (RI) demographics and staffing.

ROP Program Area Evaluations

The staff performed evaluations in the four key ROP program areas: the performance indicator (PI) program, inspection program, significance determination process (SDP), and assessment program. The staff noted that the PI program continued to offer insights into ensuring plant safety and security in CY 2013. NRC inspectors independently verified that licensees operated plants safely and securely, and they continued their support of Fukushima-related audit and

inspection activities. The SDP continued to be an effective tool for determining the safety and security significance of inspection findings. The assessment program ensured that the NRC and licensees took appropriate actions to address performance issues in CY 2013, commensurate with their safety significance. The staff made several improvements to the program area guidance documents based on feedback and lessons learned and made significant progress on several initiatives as detailed in Enclosure 1, "Reactor Oversight Process Program Area Evaluations." Many of the significant efforts in CY 2013 and challenges and focus areas in CY 2014 center on the ROP enhancement project, the Commission-directed independent review of the ROP, and other external and independent evaluations discussed in this paper and its enclosures.

ROP Communication and Performance Metrics

The staff continued to improve the ROP based on feedback from internal and external stakeholders. The staff used a variety of communication vehicles to ensure that stakeholders have access to ROP information and have ample opportunity to provide feedback. The staff continued to conduct monthly public meetings with internal and external stakeholders, to use the internal feedback process, and to hold periodic meetings and telephone conferences with internal stakeholders to discuss potential improvements to the ROP. The staff also maintained the ROP Web pages to ensure that they communicate accurate and timely information to all stakeholders. As part of the ROP enhancement initiative to improve ROP communication and openness described below, the staff developed a plain-language brochure on the ROP, NUREG/BR-0508, "Reactor Oversight Process," and hosted a poster session on the ROP during the NRC's Regulatory Information Conference held in March 2013. In addition, the staff revised NUREG-1649, "Reactor Oversight Process," in February 2014 and is developing additional communication tools in CY 2014 to facilitate NRC knowledge management and to improve public awareness and understanding of the ROP. For example, the staff is preparing a Frequently Asked Questions and Answers document about the ROP to provide plain-language answers to basic questions about ROP implementation and to consolidate recurring comments and responses from previous ROP surveys. The staff will consider additional enhancements to improve the effectiveness of NRC messages through more extensive use of plain language consistent with the recommendation from the Commission-directed independent review.

The staff has noted in the past several self-assessments that the level of participation and the number of new insights from the ROP surveys have been limited. Further, the staff has noted its intent to explore ways to improve or replace the survey tool to improve objectivity in the measurement of ROP performance and minimize the reliance on more subjective measures such as stakeholder perception. In addition, the staff has experienced challenges in obtaining the necessary clearance from the Office of Management and Budget to issue the survey to external stakeholders. As a result, the staff did not issue an external survey in CY 2013 and has suspended the use of surveys to assess ROP effectiveness. Those ROP performance metrics that are evaluated based on the survey results have been characterized as not applicable for the CY 2013 self-assessment and will be removed from or replaced in the self-assessment process guidance going forward as discussed below. The staff discussed its intent to discontinue the survey with both external and internal stakeholders, and stakeholders cited both the Commission-directed independent review and the ROP enhancement project as significant opportunities for stakeholder engagement and feedback in CY 2013. The staff continues to value and encourage stakeholder feedback on potential improvements to the ROP and is exploring alternate avenues for obtaining that feedback.

All 23 of the applicable ROP performance metrics met the established criteria in CY 2013 as defined in IMC 0307, Appendix A, "Reactor Oversight Process Self-Assessment Metrics," dated March 27, 2013. There are 19 metrics that are measured based on survey responses and as noted above the survey was not performed. Therefore these metrics were not applicable. Enclosure 1 contains a brief discussion of the performance metric evaluations for each of the program areas, and the annual ROP performance metric report provides data and a staff analysis for each ROP metric (ADAMS Accession No. ML14056A211). As part of its ROP enhancement project, the staff has initiated an effort to evaluate potential improvements to the ROP self-assessment process and explore more objective performance metrics for assessing ROP effectiveness. The staff will also ensure that the metrics measure ROP conformance with the founding ROP goals and objectives and the NRC's Principles of Good Regulation. Insights for new metrics may be gleaned from several recent and ongoing program evaluations as discussed below. The staff also will consider revising the ROP self-assessment process to better solicit and assess both tactical and strategic feedback consistent with the recommendation from the Commission-directed independent review.

Independent and Focused Evaluations

ROP Enhancement Project - In CY 2013, the staff made significant progress in its ROP enhancement efforts that were initiated to take a fresh look at several key areas of the ROP. Focus areas include: (1) enhancing the baseline inspection program to improve its efficiency and effectiveness, (2) improving ROP communication and openness, (3) enhancing assessment areas of the ROP such as substantive cross-cutting issues and supplemental inspections, and (4) enhancing ROP self-assessment program effectiveness. These efforts are being coordinated with the Commission-directed independent review described below, and they are discussed in their respective sections of this paper and its enclosures.

Commission-Directed Independent Review - The Commission directed the staff to pursue an independent review of the ROP's objectives and implementation in its SRM to SECY-12-0081. As a result, the staff created a working group and performed an independent assessment of the program in 2013 to identify potential enhancements or areas for further examination. The working group was composed of NRC staff with no current responsibility for ROP maintenance or implementation, and no substantial involvement in the original development of the program.

The working group report entitled "Reactor Oversight Process Independent Assessment 2013" was completed in February 2014 and assigned to the Office of Nuclear Reactor Regulation for review and action by the Deputy Executive Director for Reactor and Preparedness Programs (ADAMS Accession No. ML14058A231). The working group concluded that the ROP has been effective in accomplishing its objectives of maintaining safety, increasing openness, and making NRC activities and decisions more effective, efficient, and realistic. The working group also provided several recommendations and suggestions to further enhance the ROP structure and program implementation.

The staff will evaluate and consider the report's recommendations and suggestions as part of its ongoing ROP enhancement project or via existing ROP feedback processes. Enclosure 2, "Staff Actions to Address the 2013 Reactor Oversight Process Independent Assessment," summarizes the disposition of each of the recommendations and suggestions from the report. Several of the recommendations and suggestions have previously been raised by stakeholders and are already being considered by the staff as noted in and discussed in the respective

sections of this paper. The staff will report progress on implementing the associated enhancements to the Commission in its annual self-assessments. In addition, the NRC staff and other stakeholders discussed the independent assessment and ROP enhancement project at the March 2014 Regulatory Information Conference.

Government Accountability Office (GAO) Audit - In September 2013, the GAO completed its audit of the NRC's ROP and issued GAO report 13-743, "Nuclear Power: Analysis of Regional Differences and Improved Access to Information Could Strengthen NRC Oversight" (ADAMS Accession No. ML13290A611). This audit involved a review of the NRC's oversight of the U.S. nuclear power industry following the accident at Japan's Fukushima Dai-ichi Nuclear Power Plant in response to a request made by the Senate Committee on Environment and Public Works. The GAO made three recommendations, most notably that the NRC analyze the causes of regional differences in identifying and resolving findings of very low safety significance. The second and third recommendations were to improve database search tools for the public to track inspection findings, and to improve search tools for operating experience for inspectors. As noted in the GAO report, the number of escalated findings, which equate to greater risk significance, were more similar across the regions. The NRC agrees with all three recommendations and is taking action to address them as discussed in the staff's response to Congress dated December 16, 2013 (ADAMS Accession No. ML13305A116). In response, staff has already developed and implemented a tabletop exercise designed to identify the cause of Regional inconsistencies in identification of findings of very low safety significance. Exercise participants from headquarters and all four Regions were challenged to correctly identify performance deficiencies and characterize their safety significance using the current guidance in IMC 0612, Appendix B, "Issue Screening." Staff is currently assessing the data to determine the apparent causes and will revise inspection program guidance, if necessary.

Office of the Inspector General (OIG) Audits - In March 2013, the OIG completed its audit of the NRC's training program and issued OIG report 13-A-14, "Audit of NRC's Safety Training and Development for Technical Staff" (ADAMS Accession No. ML13073A183). This audit involved a review of the NRC's process for identifying safety training needs. The OIG recommended that the NRC develop and implement procedures to systematically assess training needs. In response, the staff will work in CY 2014 to assess training needs for various inspector positions and establish procedures for future assessments.

The OIG also conducted an audit in 2013 to evaluate the effectiveness of NRC support provided to resident inspectors at nuclear power plants, fuel-cycle facilities, and construction sites. OIG report 14-A-12, "Survey of NRC's Support Provided to Resident Inspectors," (ADAMS Accession No. ML14077A293), was finalized in March 2014. The OIG identified opportunities to improve the agency's support of resident inspectors which include: (1) identifying a formal mechanism for obtaining residents' perspectives regarding support issues, and (2) taking measures to ensure that the roles and responsibilities for existing support systems for residents' needs and concerns are communicated and understood by the appropriate management and staff, and are effectively executed. The NRC staff is in the process of evaluating and responding to these recommendations.

ROP Reliability Initiatives - The staff continued to implement the ROP reliability initiatives in 2013. The Deputy Regional Administrators initiated these activities to improve ROP implementation through sharing inspection resources, conducting benchmarking visits to other NRC regions, assessing inspection report quality, and discussing reliability topics, such as the

distinction between minor and more-than-minor licensee performance issues. In 2013, the staff integrated the effort and resources associated with the ROP reliability initiative with the ROP enhancement project. Given that the ROP enhancement project includes significant participation by headquarters staff, regional inspectors, first-line supervisors and senior managers, the project afforded valuable opportunities for the exchange of ideas and views across all four regions to further ROP reliability while efficiently managing available resources.

Lessons Learned from Browns Ferry Supplemental Inspection - As prescribed in Inspection Procedure (IP) 95003, "Supplemental Inspection for Repetitive Degraded Cornerstones, Multiple Degraded Cornerstones, Multiple Yellow Inputs, or One Red Input," the staff performed an evaluation of the IP 95003 supplemental inspection completed at Browns Ferry in CY 2013. The evaluation yielded the following determinations: (1) based on a review of previous information, the Agency appropriately characterized Brown Ferry's performance; (2) the Agency was provided sufficient warning to identify a significant reduction in safety; and (3) the methodology and approach used to complete the Browns Ferry IP 95003 inspection was thorough and efficient. The evaluation also contained additional insights related to the NRC inspection and assessment processes as well as several recommendations and suggestions for potential program improvements. The staff will consider these recommendations and suggestions as part of the ROP feedback process, or other programs, as appropriate.

Regulatory Impact Summary - The staff received and evaluated feedback from licensees as part of the established regulatory impact process. Over the past year, the staff received and compiled feedback during numerous site visits to reactor sites across all four regions. The favorable percentage remained high, and the distribution of comments was similar to previous years. The few unfavorable comments were concentrated primarily in discreet areas, including the cumulative effects of regulation and the lack of clear guidance for transitioning from operating to decommissioning status. Enclosure 3 "Regulatory Impact Summary," discusses the feedback and the staff's evaluation.

Industry Trends Program - The NRC also collects and analyzes industry-wide data to monitor the overall safety performance of operating plants and to serve as indicators of ROP effectiveness. The staff is reporting the FY 2013 results of the Industry Trends Program to the Commission in an annual paper that complements this paper, which also includes a review of the program implementation and staff conclusions and recommendations for program enhancements and reductions, as directed by the Commission in its SRM dated June 13, 2013. The results of the Industry Trends Program, along with the results of this annual self-assessment, will be reviewed at the AARM.

Transition to New Reactor Oversight - Similar to ROP implementation for operating reactor oversight, the staff implements the Construction Reactor Oversight Process (cROP) for the oversight of new reactors that are under construction. The staff performs an annual self-assessment of the cROP that is forwarded to the Commission in a separate paper. The staff formed a working group to identify gaps and action items needed to ensure that a smooth transition will occur from the cROP to the ROP for new reactors. A report summarizing the group's activities and recommendations will be provided to senior NRC management in 2014. The recommendations will be evaluated for potential enhancements to the cROP, ROP, and the transition between them.

Applicability to New Reactors - In addition, the staff has provided its recommendations to the Commission for risk-informing the ROP for new reactors in SECY-13-0137, "Recommendations for Risk-informing the Reactor Oversight Process for New Reactors," dated December 17, 2013 (ADAMS Accession No. ML13263A351). The purpose of the paper was to respond, in part, to the SRM to SECY-12-0081, "Risk-Informed Regulatory Framework for New Reactors," dated October 22, 2012. The staff recommended that the Commission direct the staff to: (1) develop an integrated risk-informed approach for evaluating the safety significance of inspection findings for new reactor designs that would use qualitative measures to supplement the risk evaluations in a structured manner to ensure an appropriate regulatory response to performance issues; and (2) develop appropriate PIs and thresholds for new reactor applications, specifically those PIs in the Initiating Events and Mitigating Systems cornerstones, or develop additional inspection guidance to address identified shortfalls to ensure that all cornerstone objectives are adequately met.

ROP Resource Expenditures

Overall resource expenditures for ROP implementation decreased in CY 2013 compared to recent years. This can be attributed primarily to the decommissioning of several plants. Enclosure 4, "Reactor Oversight Process Resource Expenditures," further discusses ROP resource expenditures.

Resident Inspector Demographics and Site Staffing

Based on the annual resident inspector demographic and site staffing analysis, the staff concluded that sites continue to be staffed with knowledgeable and experienced resident inspectors (RIs) and senior resident inspectors (SRIs). Staff turnover rates in both the RI and SRI ranks have increased compared to recent years. The staff will continue to closely monitor inspector experience, inspector turnover, and permanent site staffing in 2014. Enclosure 5, "Resident Inspector Demographics," provides details on the 2013 RI and SRI demographics and site staffing.

CONCLUSIONS:

The self-assessment results for CY 2013 indicate that the ROP provided effective oversight by meeting the program goals and achieving its intended outcomes. The ROP ensured openness and effectiveness in supporting the agency's mission and its strategic goals of safety and security. The program was successful in being objective, risk-informed, understandable, and predictable. The NRC appropriately monitored operating nuclear power plant activities and focused agency resources on performance issues in CY 2013, and plants continued to receive a level of oversight commensurate with their performance. Nevertheless, several program improvements are being evaluated and implemented based on lessons learned and feedback from stakeholders and independent assessments, consistent with the continuous improvement features of the ROP.

RESOURCES:

NRC Headquarters and the Regions use resources for ROP program management, development, and licensee performance assessment activities. These activities include ROP enhancement efforts, the annual ROP program assessment, mid-cycle and end-of-cycle

licensee performance assessments, and revision and maintenance of the inspection manual. The Office of Nuclear Regulatory Research (RES) provides support in the development and enhancement of NRC risk analysis tools. The following table includes estimates for resources to conduct these activities in the Office of Nuclear Reactor Regulation (NRR), the Office of Nuclear Safety and Incident Response (NSIR), RES, and the Regions.
The staff does not anticipate that these activities will utilize any resources beyond those already included in the FY 2014 Current Estimate and the FY 2015 Congressional Budget Justification. Resources required beyond FY 2015 will be addressed during the Planning, Budgeting, and Performance Management process.

	FY 2014		**FY 2015**	
	FTE	**$K**	**FTE**	**$K**
NRR	30.0	1,055	28.2	1,039
NSIR	6.0	--	4.4	--
RES	9.5	3,675	9.5	3,861
Regions	37.7	--	37.3	--
TOTAL	**83.2**	**4,630**	**79.4**	**4,900**

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 determined that there is no unforeseen financial impact.

/RA/

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Enclosures:
1. Reactor Oversight Process Program Area Evaluations
2. Staff Actions to Address the 2013 Reactor Oversight Process Independent Evaluation
3. Regulatory Impact Summary
4. Reactor Oversight Process Resource Expenditures
5. Resident Inspector Demographics

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