

April 4, 2014

MEMORANDUM TO: Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

FROM: Ho K. Nieh, Director **/RA/**
Division of Inspection and Regional Support,
Office of Nuclear Reactor Regulations

SUBJECT: REACTOR OVERSIGHT PROCESS ENHANCEMENT
PROJECT - BASELINE INSPECTION PROGRAM

The purpose of this memorandum is to inform you of the results and recommendations of the staff's efforts related to the baseline inspection program portion of the Reactor Oversight Process (ROP) Enhancement Project.

This effort completes a major phase of the ROP Enhancement Project. I extend my thanks and appreciation for the significant effort by the regional and headquarters staff who supported this effort. In addition, I want to commend Marsha Gamberoni for her instrumental role in organizing, coordinating, and overseeing this project to completion.

Background

The ROP is a mature program with built-in continuous improvement features. It has evolved since 2000 to address emerging issues and stakeholder concerns. While the existing assessment processes have been instrumental in revising the ROP, recent feedback from internal and external stakeholders identified three areas for potential enhancements: Baseline Inspection Program, Assessment, and Communications.

The overall goal of the ROP Enhancement Project is to address the following questions:

- Is the ROP helping the U.S. Nuclear Regulatory Commission achieve what is needed as a regulator?
- Is the ROP adequate for the current environment?
- What is the nexus between the ROP and industry safety performance?
- What is and is not working? What should be improved?

This report provides the results of the Baseline Inspection Program portion of the ROP Enhancement Project. The established goals for this portion of the project included enhancing the baseline inspection program to incorporate inspection areas for the current environment, eliminating redundant or no longer necessary inspection areas, maximizing efficient and effective use of resources, and incorporating flexibility where appropriate. This process

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provides a validation of the basic philosophy and key principles of the baseline inspection program with allowance to make changes where it may be necessary.

The baseline inspection procedures (IPs) were divided into ten inspection areas.

1. Engineering (Enclosure 2)
2. Maintenance (Enclosure 3)
3. Inservice Inspection (ISI) (Enclosure 4)
4. Operability (Enclosure 5)
5. Problem Identification and Resolution (PI&R) (Enclosure 6)
6. Operations (Enclosure 7)
7. Radiation Safety (Enclosure 8)
8. Emergency Preparedness (Enclosure 9)
9. Safeguards (Enclosure 10)
10. Other
 - a. Adverse Weather Protection (Enclosure 11)
 - b. Refueling and Other Outage Activities (Enclosure 12)
 - c. Performance Indicator Verification (Enclosure 13)
 - d. Follow-up Events and Notices of Enforcement Discretion (Enclosure 14)

Additionally, five special topics were included in the enhancement effort based on feedback and the potential for these topics to impact the baseline inspection program, as a result of the current regulatory environment.

1. Operating Experience (Enclosure 15)
2. Aging Management (Enclosure 16)
3. Fukushima Follow-Up Items (Enclosure 17)
4. Independent Spent Fuel Storage Installation (Enclosure 18)
5. Flexibility (Enclosure 19)

To accomplish the review, active champions, key branch chiefs, and special topic leads were identified from the Offices of Nuclear Reactor Regulation, Nuclear Security and Incident Response, Nuclear Materials Safety and Safeguards, and each of the four Regions. The champions were responsible for: setting the vision; defining the scope, breadth, and boundary conditions; and communicating their organization's viewpoint to the project team and communicating the status of the project back to their organization. The individuals involved in the review are listed in Enclosure 1 to this report.

Additional background for each inspection area or topic is provided in the individual attachments that addresses the inspection area or special topic.

Process

The Baseline Inspection Program Enhancement Project has three main phases: analysis of the inspection areas and associated procedures; documentation of recommendations; and, changes to inspection areas and associated procedures.

The champions and key branch chiefs gathered information from the IP analysis completed by the IP owners, inspectors and subject matter experts, special groups and reports, lessons

learned, recent events, and inspections to analyze their assigned inspection areas. This included the Commission directed independent review of the ROP and recent reports from the Office of the Inspector General on topics that involved the ROP Baseline Inspection Program.

The independent review of the ROP was conducted in Calendar Year 2013 as directed by the Commission. The report identified eight recommendations and ten suggestions for improving the ROP. Many of the proposals had been previously identified and those that relate to the baseline inspection program were included in this part of the ROP Enhancement Project, a few examples include:

- Recommendation 3, to include a risk-informed periodic review of licensee programs or actions to address generic issues is being addressed in the Special Topic: Operating Experience.
- Recommendation 7, to clarify ROP program expectations for when performance issues that are common to multiple facilities should be considered for resolution through a generic issues process was addressed outside of the ROP Enhancement project and was considered in the recent revision to Office Instruction COM-106, "Control of Task Interface Agreements."
- Suggestion 7, to use periodic inspector counterpart seminars, training, and mentoring as opportunities to ensure that inspectors and managers have a common understanding of the inherent flexibilities in the ROP inspection program is being addressed in the Special Topic: Flexibility. This was also discussed during a counterpart meeting as part of the internal outreach for this project. The staff will continue to consider the topic for future counterpart meetings.

Internally, each region and IP owner conducted outreach to obtain input from inspectors and subject matter experts. The information was shared across the regions to ensure that each champion had a broad set of inputs to use during their assessments. Numerous project meetings were held to share individual and collective input. The philosophy and principles of the program were reviewed to ensure proposed revisions were in agreement.

External outreach included interface with industry groups such as the Regional Utility Group meetings and groups such as the Union of Concerned Scientists. Based on early discussions, a set of questions were developed and posted in the *Federal Register* for external stakeholders to provide a response.

A public meeting was held on July 17, 2013, approximately one month after the *Federal Register* Notice (FRN) was posted. The FRN provided a structure for the discussion at the meeting. The primary goal was to share information regarding the project and to obtain input from external stakeholders for consideration.

An internal project meeting was held to share recommendations between champions, special topic leads, and IP owners prior to a second public meeting. In addition, the deputy office directors and deputy regional administrators were briefed on the recommendations. An overview of the recommendations was presented at the second public meeting held on February 5, 2014.

Recommendations

Recommendations for each inspection area and special topic were identified. A few examples of how the recommendations support the project goals are:

Incorporate inspection areas for the current environment by:

- Within the scope of license renewal, integrating aging management inspection guidance into applicable existing baseline IPs
- Identifying enhancements to flood-related IPs, based on information discovered during temporary instructions conducted in response to the Fukushima event

Eliminate redundant or no longer necessary inspection areas by:

- Reallocation of resources from inspection of areas that are mature and no longer require as much inspection for radiation safety inspections

Maximize efficient and effective use of resources by:

- Updating the operating experience process to link operating experience samples directly into individual inspection procedures
- Clarifying and expanding inspection guidance for engineering inspections
- Improving inspector training and inspector aids and tools for engineering and maintenance inspections

and,

Incorporate flexibility where appropriate by:

- Broadening sample selection to include smart samples and engineering components and interface in IPs
- Removing quarterly and semi-annual sample requirements and implementing annual sample targets in areas such as licensed operator performance inspections

No recommended changes were identified that impact the original philosophy and principles of the ROP. However, in at least one inspection area, the review identified the current version of the IP no longer met the original objectives. Feedback was captured to either align the IP with the original objectives or to change the objectives to align with the current IP.

The attachments to this report include recommendations for each inspection area and special topic. Many recommendations will be provided to the IP owners for consideration during their review of the IPs. However, some of the inspection areas and special topics have recommendations that will require additional development before they can be implemented. These include the areas of Problem Identification and Resolution, Engineering, Maintenance, Operating Experience, and Independent Spent Fuel Storage Installation. The current oversight budget for Reactor Inspection and Assessment contains Program Management and Oversight resources to support these efforts. Staff in the Division of Inspection and Regional Support plan to manage and coordinate the actions and transition to resolution of the recommendations. The

activities will also be prioritized as necessary to adjust for any increase in workload or to accommodate any higher priority work.

Also attached is a table containing a summary of the recommendations (Enclosure 20).

Enclosures:

- 1: List of Champions, Key Branch Chiefs, Special Topic Leads, and IP Owners
- 2: Engineering
- 3: Maintenance
- 4: ISI
- 5: Operability
- 6: PI&R
- 7: Operations
- 8: Radiation Safety
- 9: Emergency Preparedness
- 10: Safeguards
- 11: Adverse Weather Protection
- 12: Refueling & Other Outage Activities
- 13: Performance Indicator Verification
- 14: Follow-Up Events & Notices of Enforcement Discretion
- 15: Operating Experience
- 16: Aging Management
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- 20: Summary Table

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