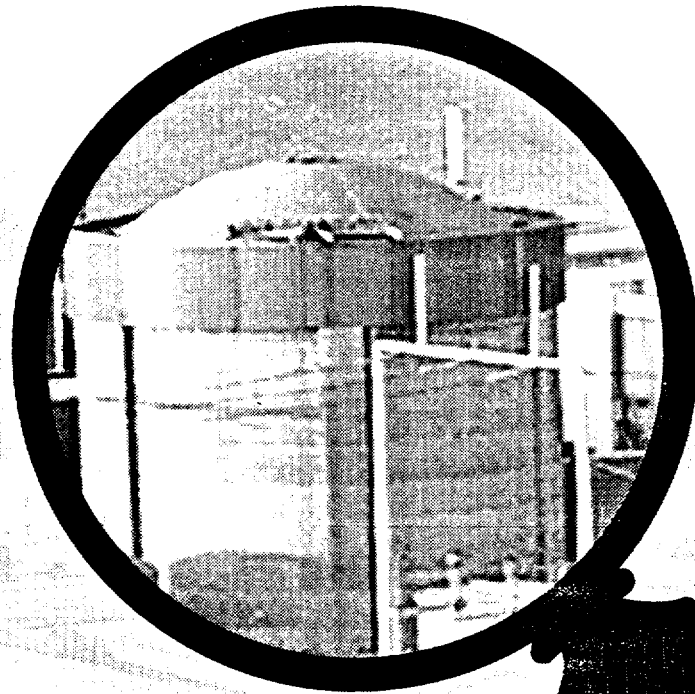


# Reactor Oversight Process



## Lessons Learned Public Workshop

March 26-28, 2001 • NRC Headquarters

**NRC Handout**

# **Reactor Oversight Process Initial Implementation Public Workshop**

## **AGENDA**

**March 26 through 28, 2001**

**Monday through Wednesday 8:00 AM to 1:30 PM**  
**On-site Registration**

**"LUNCH ON YOUR OWN" NOON TO 1:30 EACH DAY**

**Monday, March 26**

**10:00 AM to Noon**

### **Opening Plenary Session**

**Jon Johnson (NRC) - Welcome and opening remarks**  
**Bill Dean (NRC) - Summary of ROP initial implementation**  
**David Lochbaum (UCS) - Insights on the ROP**  
**Steve Floyd (NEI) - The ROP and Unnecessary Regulatory Burden**  
**Mike Johnson and Doug Coe - Workshop Preview**

**1:30 to 5:00 PM**

### **Reactor Safety Performance Indicator (PI) Issues**

**Safety System Unavailability PI Issues**  
**Unplanned Power Changes and Proposed Pilot Program**  
**Unplanned Scrams Pilot Program Status**

### **Fire Protection Issues**

**Improvements to Fire Protection SDP (Significance Determination Process)**  
**Improve Common Understanding of Fire Protection Licensing Basis**

### **Radiation Safety Issues**

**Public Radiation SDP Issues and Refinements**  
**Appropriate Consideration of Hot Particles in the Occupational Radiation SDP**  
**ALARA SDP Issues and Refinements**

**Tuesday, March 27**

**8:00 AM to Noon**

### **Cross Cutting Issues/Problem Identification & Resolution**

**Status of NRC and Licensee Efforts to Address Cross Cutting Issues**  
**Effectiveness of PI&R Inspections and Alternate Approaches**

### **Radiation Safety Issues (continuation of Monday session)**

**Physical Protection Issues**

Clarify Threshold for Documentation of Physical Protection Issues in Inspection Reports  
Consolidate & Clarify Baseline Inspection Requirements  
Description of the Safeguards Performance Assessment (SPA) program  
Interim and Long Term Improvements to the Physical Protection SDP  
Safeguards PI Modifications

**1:30 to 3:30 PM**

**Maintenance Effectiveness Issue**

Proposal to Develop SDP for (a) (4) Rule Implementation

**1:30 to 5:00 PM**

**Radiation Safety Issues** (continuation of morning session)

**Physical Protection Issues** (continuation of morning session)

**3:30 to 5:30 PM**

**Assessment & Enforcement Issues**

Enforcement of Findings Resulting from PI Verification Inspections  
Enforcement Consistency in Reactor Oversight Process  
Addressing Inadequate Corrective Actions or Root Cause Evaluations Related to PI Issues  
No-Color Findings  
Accounting for Historical Problems in Performance Assessment  
Purpose of Regulatory Conferences and Regulatory Performance Meetings

**Wednesday, March 28**

**8:00 AM to Noon**

**Assessment & Enforcement Issues** (continuation of Tuesday session)

**Communication Issues**

Communicating Inspection Results and Inspector Insights  
Openness of SDP related Communications  
Annual Assessment Meeting Effectiveness and Public Interactions  
ROP Web Page Improvements  
Incorporating Public Feedback

**1:30 to 3:30 PM**

**Closing Plenary Session and wrap-up**

Review of Workshop Break-out Session Results  
ROP Questions and Answers  
Future Activities

# REACTOR OVERSIGHT PROCESS INITIAL IMPLEMENTATION PUBLIC WORKSHOP

## ROOM ASSIGNMENTS

<b>REGISTRATION EACH DAY 8:00 TO 1:30 PM</b>
<b>"LUNCH ON YOUR OWN" EACH DAY NOON TO 1:30</b>

<b>Mon. AM 10:00-Noon</b>		Opening Session		Opening Session	
<b>Mon. PM 1:30 to 5:00</b>	Fire Protection Issues	Radiation Safety Issues		Reactor Safety Performance Indicator Issues	
<b>Tue. AM 8:00 to Noon</b>	Cross Cutting / Problem Identification and Resolution Issues	Radiation Safety Issues		Physical Protection Issues	
<b>Tue. PM 1:30 to 5:00</b>	Maintenance Effectiveness Issues 1:30 - 3:30 -----	Radiation Safety Issues	----- Assessment & Enforcement Issues 3:30 - 5:00	Physical Protection Issues	
<b>Wed. AM 8:00 to Noon</b>			Assessment & Enforcement Issues	Communication Issues	
<b>Wed. PM 1:30 to 3:30</b>		Closing Session		Closing Session	
	<b>POTOMAC/ ROCKVILLE SUITE</b>	<b>AUDITORIUM B&amp;C</b>	<b>GAITHERSBURG/ DARNSTOWN SUITE</b>	<b>AUDITORIUM D&amp;E</b>	

# **REACTOR OVERSIGHT PROCESS LESSONS LEARNED WORKSHOP**

## **REVIEW OF FIRST YEAR OF INITIAL IMPLEMENTATION**

**WILLIAM DEAN, CHIEF  
INSPECTION PROGRAM BRANCH  
MARCH 26, 2001**

## **TOPICS TO BE DISCUSSED**

- \* Chronology of Key Events
- \* Communication Activities
- \* Overall Results
- \* Issues That Were Considered During Initial Implementation
- \* Major Changes and Issues
- \* Future Milestones and Activities
- \* Overview of Workshop

## **CHRONOLOGY OF KEY EVENTS**

- \* March 1998 - Integrated Review of Assessment Process (IRAP) Commission Paper
- \* September 1998 - Public Workshop on Oversight Process
- \* January/March 1999 - ROP Framework Commission Papers
- \* November 1999 - Pilot Program Completed
- \* February 2000 - Commission Paper on Pilot Program
- \* March 2000 - Commission Approves Initial Implementation
- \* April 2000 - Initial Implementation of ROP Begins

## **COMMUNICATION ACTIVITIES OVER THE PAST YEAR**

- \* Public Informational Meetings in Each Community
- \* Public Workshops in Each Region
- \* Revised NUREG-1649, "Reactor Oversight Process"
- \* Monthly Public Interface Meetings with Industry ROP Working Group
- \* Federal Register Notice
- \* Initial Implementation Evaluation Panel
- \* Internal Conference Calls, Management Meetings & Site Visits
- \* Internal Survey



## **OVERALL RESULTS**

- \* Substantially Exercised Process
- \* Made Several Significant Changes
- \* Maintained Process Stable
- \* Successful Demonstration of Framework Objectives
- \* Data on Process Results and Resources

## **OVERALL RESULTS (Continued)**

### PERFORMANCE INDICATOR RESULTS (APR-DEC 2000)

CORNERSTONE PERFORMANCE INDICATOR	WHITE THRESHOLDS CROSSED	YELLOW THRESHOLDS CROSSED
INITIATING EVENTS	9	-
MITIGATING SYSTEMS	14	1
EMERGENCY PREPAREDNESS	6	1
BARRIER INTEGRITY	1	1
OCCUPATIONAL RADIATION SAFETY	1	-
PUBLIC RADIATION SAFETY	-	-
PHYSICAL PROTECTION	4	1

## **OVERALL RESULTS (Continued)**

### **INSPECTION RESULTS (APR 2000-MAR 2001)**

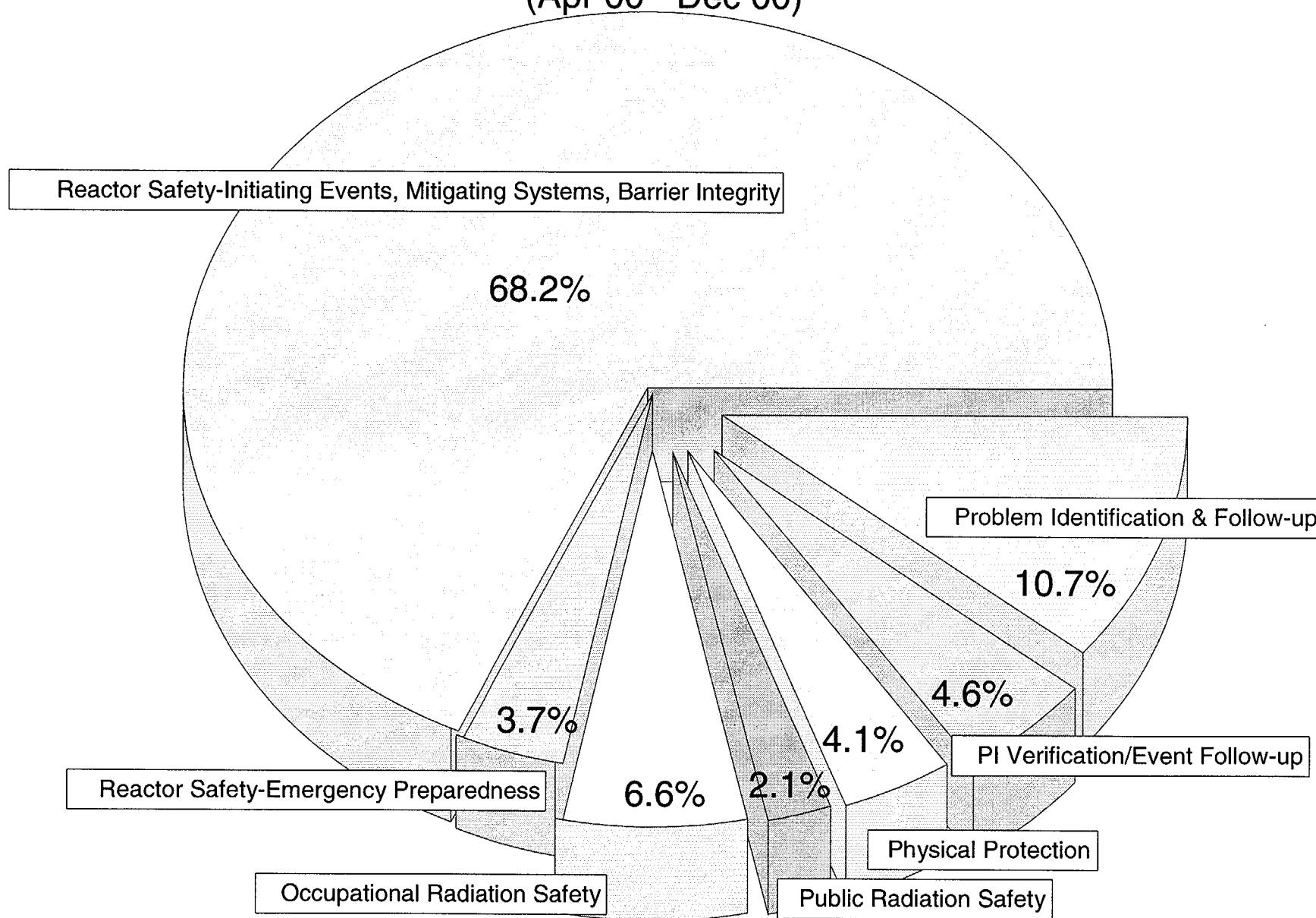
<b>CORNERSTONE INSPECTABLE AREA</b>	<b>WHITE FINDINGS</b>	<b>YELLOW FINDINGS</b>	<b>RED FINDINGS</b>
REACTOR SAFETY	5	-	1
EMERGENCY PREPAREDNESS	4	1	-
OCCUPATIONAL RADIATION SAFETY	4	-	-
PUBLIC RADIATION SAFETY	1	-	-
PHYSICAL PROTECTION	1	-	-
OTHER BASELINE PROCEDURES	-	-	-
<b>TOTAL FINDINGS OF SIGNIFICANCE</b>	<b>15</b>	<b>1</b>	<b>1</b>
PENDING ISSUES	2	2	

## **OVERALL RESULTS (Continued)**

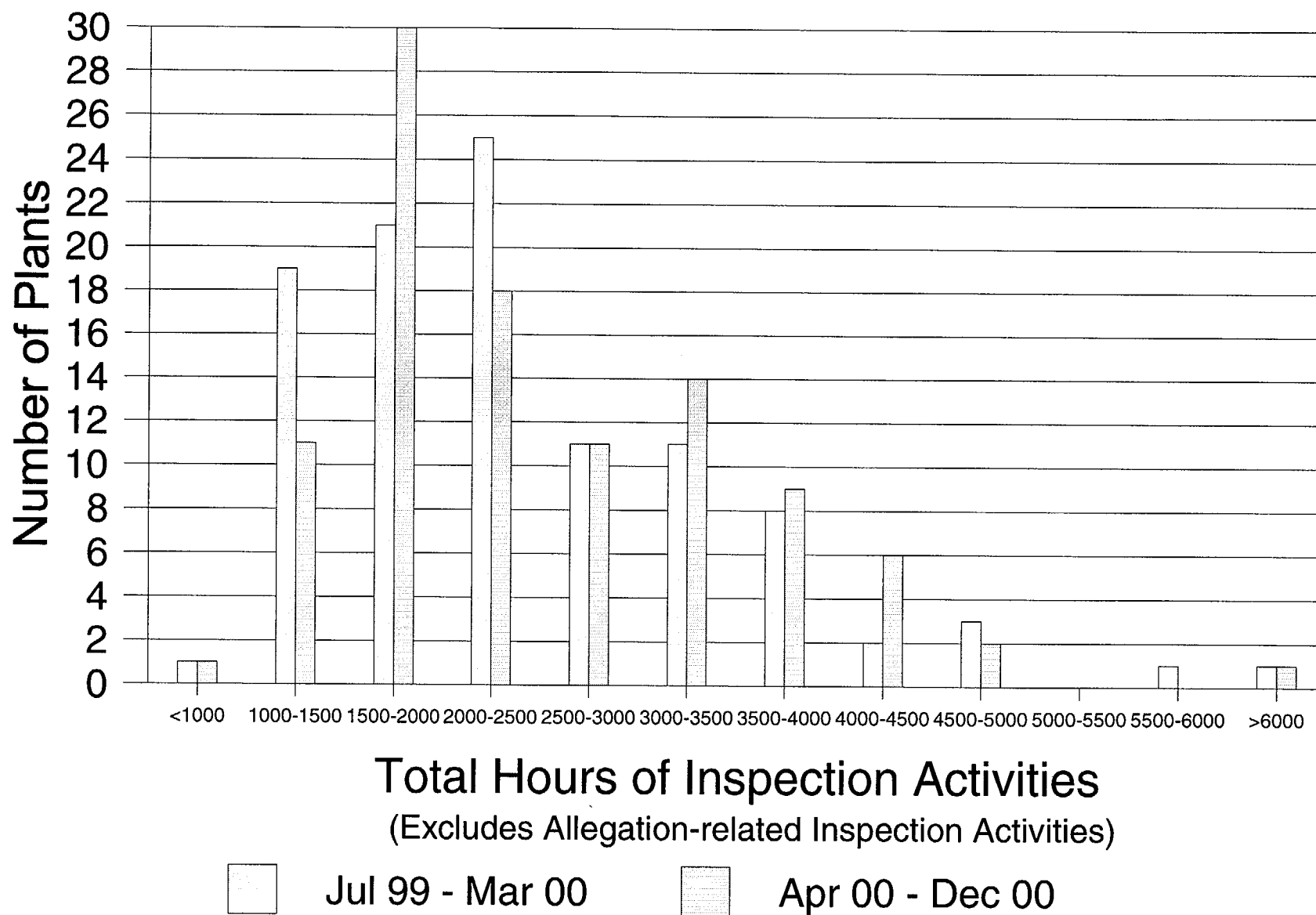
### **ACTION MATRIX RESULTS (APR-MAR 2001)**

<b>COLUMNS OF THE ACTION MATRIX</b>	<b>NUMBER OF UNITS THAT HAVE ENTERED COLUMN</b>
<b>LICENSEE RESPONSE</b>	<b>73</b>
<b>REGULATORY RESPONSE</b>	<b>22</b>
<b>DEGRADED CORNERSTONE</b>	<b>5</b>
<b>MULTIPLE/REPETITIVE DEGRADED CORNERSTONES</b>	<b>1</b>
<b>UNACCEPTABLE PERFORMANCE</b>	<b>NONE</b>

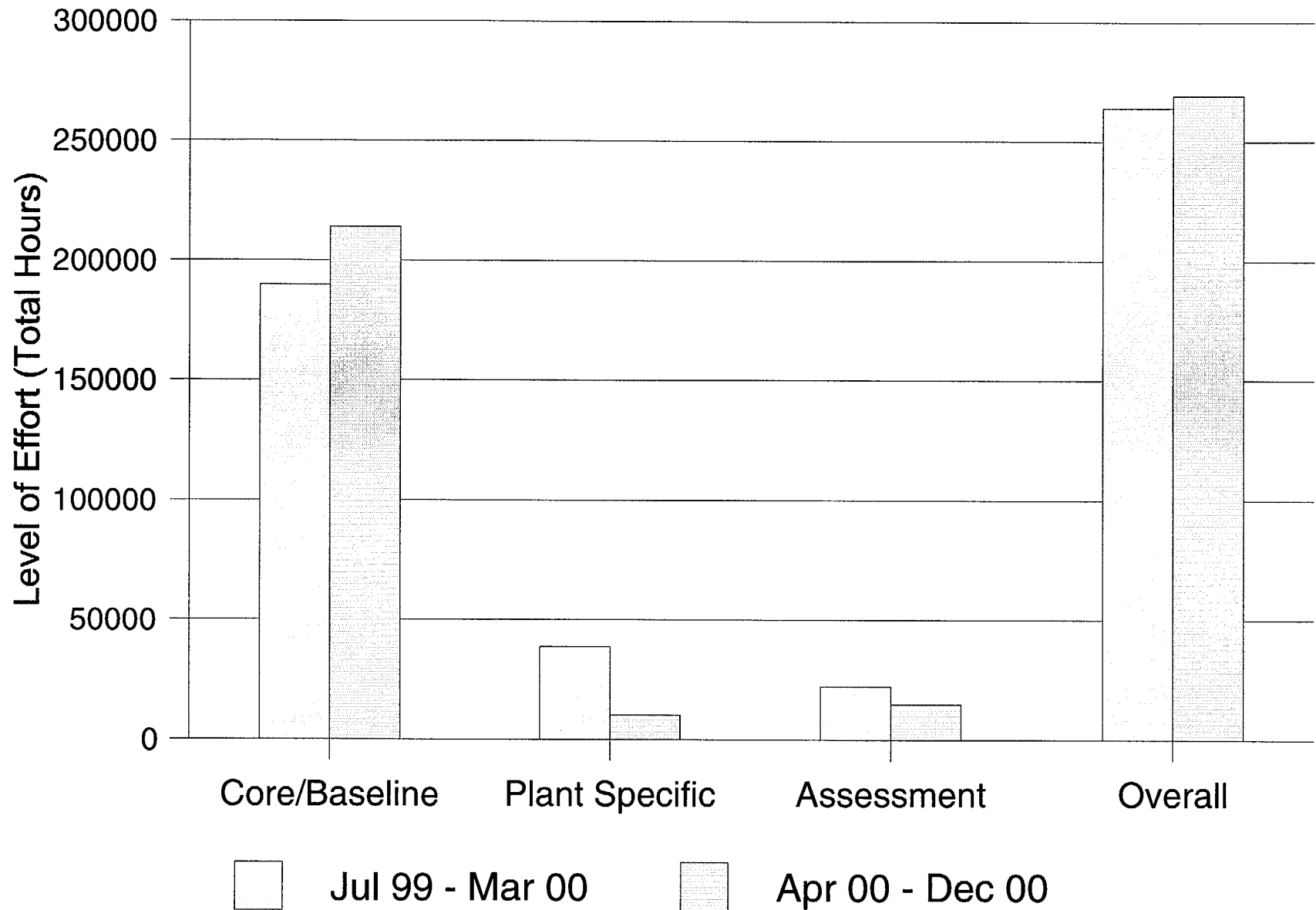
# Distribution of Direct Inspection Hours by Cornerstone (Apr 00 - Dec 00)



# Nine-Month Inspection Effort at Operating Reactors



## Nine-Month Comparison of ROP vs Previous Program



# **ISSUES THAT WERE CONSIDERED DURING INITIAL IMPLEMENTATION**

## **Issues Raised By Commission**

- \* Convene a Federal Advisory Committee Act Evaluation Panel
- \* Minimize Deviations from Action Matrix
- \* Maintain Continued Dialogue With Staff on ROP Implementation Issues
- \* Ensure Criteria for Documenting Issues is Clear, Consistent & Objective
- \* Cross-Cutting Issues Should Be Linked to Significant Findings or PIs
- \* Address Performance Issues Unrelated to Licensing and Design Basis



# **ISSUES THAT WERE CONSIDERED DURING INITIAL IMPLEMENTATION (Continued)**

## **Issues Raised By Pilot Program Evaluation Panel**

- \* Conduct Performance Indicator Verification Inspections
- \* Resolve Issues with Selected Performance Indicators:
  - Emergency Preparedness
  - Security Equipment Performance Index
  - Containment Integrity
  - Siren Notification Systems
- \* Don't Rely on Resource Utilization to Measure Program Effectiveness and Develop Process to Confirm Program Assumptions
- \* Evaluate Significant Events for Program Insights
- \* Develop ROP Basis Document

## **MAJOR CHANGES AND ISSUES DURING INITIAL IMPLEMENTATION**

- \* Improved Guidance in Manual Chapter 0610\* on Inspection Report Writing
- \* Physical Protection Significance Determination Process
- \* Unplanned Reactor Shutdown Performance Indicators
- \* Unavailability and Unplanned Power Transient PI Issues
- \* Volume of Frequently Asked Questions on Performance Indicators
- \* Delay in Issuing Final Phase 2 SDP Workbooks
- \* No Color Findings

# **FUTURE MILESTONES AND ACTIVITIES**

## **Milestones**

- \* Evaluate Federal Register Notice Input - April 2001
- \* Conduct First Agency Action Review Meeting - June 2001
- \* Submit Commission Paper on Initial Implementation - June 2001
- \* Brief Commission on Initial Implementation - July 2001

## **Activities**

- \* Risk Based Performance Indicators
- \* Industry Trending Program
- \* Reactor Oversight Process Self-Assessment and Ongoing Improvements

# **WORKSHOP STRUCTURE AND ORGANIZATION**

- \* Workshop Materials
- \* Use Of Question Cards
- \* Application of Different Workshop Styles
- \* Purpose of Closing Session
- \* Meeting Summary to be Posted on Web
- \* Evaluation Forms

## **WORKSHOP STRUCTURE AND ORGANIZATION (cont'd)**

- \* Session Objective
- \* Issue Description
- \* Background Information
- \* Workshop Activity
- \* Proposed Resolution
- \* Workshop Outcome

## **SESSION OVERVIEW**

# **REACTOR SAFETY PERFORMANCE INDICATOR (PI) ISSUES**

## **SESSION OBJECTIVES:**

- **To present current status of several key Reactor Safety PI issues**
- **To obtain stakeholder feedback on proposed issue resolution approach**

## **ISSUES:**

- **Safety System Unavailability PI**
- **Unplanned Power Change PI**
- **Unplanned SCRAM Pilot Program**

# **REACTOR SAFETY PERFORMANCE INDICATOR ISSUES**

## **SAFETY SYSTEM UNAVAILABILITY**

### **ISSUES:**

- What unavailable hours should be included?
- How should start and run failures be handled?
- What credit should be allowed for operator recovery actions?
- Should default values for hours train required be allowed?

### **BACKGROUND:**

- SSU PI derived from WANO Safety System Performance Indicator
- Excludes unavailable hours when train not required by Tech Specs, though function is required
- Does not count unavailable hours for on-line maintenance if risk analysis shows risk comparable to shutdown maintenance
- Includes support system unavailability in monitored system (cascades)
- Excludes design deficiencies

### **WORKSHOP ACTIVITY**

**Panel discussion to describe ongoing efforts to resolve issues and to obtain stakeholder feedback**



# **REACTOR SAFETY PERFORMANCE INDICATOR ISSUES**

## **UNPLANNED POWER CHANGES PER 7,000 CRITICAL HOURS**

### **ISSUES:**

**Licensees have deferred maintenance and changed procedures to avoid counts in this PI because of the definition of “unplanned” (72 hour rule) and the criteria for counting a power change (>20%)**

### **BACKGROUND:**

- Patterned after Monthly Operating Report data**
- MOR data correlated reasonably well with historical problem plants**
- MOR definition of forced power reduction changed to account for time to plan**
- Some instances of licensees waiting 72 hours to avoid a count**
- Some instances of licensees reducing power less than 20% to avoid a count**

### **WORKSHOP ACTIVITY:**

**Panel discussion of the challenges with this PI, the current plans to pilot test a replacement indicator that is less conducive to being managed, and to solicit stakeholder feedback on this approach**

# **REACTOR SAFETY PERFORMANCE INDICATOR (PI) ISSUES UNPLANNED SCRAMS PER 7,000 CRITICAL HOURS**

## **ISSUES:**

- Perceived potential negative consequences of counting manual scrams
- Negative impact of providing less understandable, objective, predictable guidance
- Status of pilot program

## **BACKGROUND:**

- Some industry managers perceive potential for negative consequences of counting manual scrams
- New definition does not use “scram” in guidance
- Intent is to count same events as current indicator
- Requires greater interpretation, creating potential for confusion and questions that would impose resource burden on licensees and NRC
- Six month pilot program with 21 plants began with October 2000 data
- Last submission received March 21, 2001
- Data analysis underway

## **WORKSHOP ACTIVITY:**

**Industry presentation on status of pilot program followed by panel discussion to solicit stakeholder feedback for consideration in making final determination**

# **FIRE PROTECTION ISSUES**

## **SESSION OBJECTIVE:**

**Present information on current issues in fire protection, proposed NRC approaches to resolving the issues, and obtain stakeholder feedback to aid NRC in refining its approach.**

## **ISSUES:**

**Improvements need to be made to the fire protection Significance Determination Process (SDP) to make it more effective and efficient to use.**

**The plant fire protection licensing bases and approved processes for changing them are not always clear to inspectors and licensees.**

# **FIRE PROTECTION ISSUES**

## **Improvements to the Significance Determination Process**

### **ISSUE 1:**

**Improvements need to be made to the fire protection Significance Determination Process (SDP) to make it more effective and efficient to use. Those improvements are to develop tools or improve guidance in (1) fire scenario development, (2) fire frequency data, (3) fire brigade evaluation, and (4) evaluation of manual actions.**

### **BACKGROUND:**

**The need for improvements has become apparent through using the fire protection SDP to evaluate fire protection inspection findings. Individual Plant Examinations of External Event (IPEEE) have shown that fire is a significant contributor to Core Damage Frequency (CDF) in a majority of plants. In some cases, fire contribution to CDF can approach (or even exceed) the contributions from internal events.**

### **WORKSHOP ACTIVITY:**

**Discuss current challenges, the NRC's approach to addressing issues and to solicit stakeholder feedback.**

# **FIRE PROTECTION ISSUES**

## **Fire Protection Licensing**

### **ISSUE 2:**

**The plant fire protection licensing bases and approved processes for changing them are not always clear to inspectors and licensees. This complicates performing fire protection inspections because we often disagree with the licensees on the exact licensing basis for the plant and such issues tend to be difficult to resolve.**

### **BACKGROUND:**

***Resolving Licensing Basis Issues:*** Plant fire protection licensing bases often involve differing interpretations, requiring NRR resolution. Some involve potentially generic issues. The current system for resolving generic issues has shortcomings

***Changes to licenses:*** Many licensees have modified their facility, by removing fire protection features (e.g., Thermo-Lag) and substituting additional manual operator actions, using the 50.59 process. Since fires are not postulated to occur during accidents evaluated in the UFSAR, licensees could potentially remove almost all fire protection features under 50.59.

### **WORKSHOP ACTIVITY:**

**Panel discussion of current issues and NRC's proposed approach to clarify activities in this area. Solicit stakeholder feedback on proposed approach.**

# **Radiation Safety Breakout Session**

## **I. Introduction**

## **II. Session 1 - Update on Recent Changes**

**A. Public Radiation Safety Cornerstone**

**B. Occupational Radiation Safety Cornerstone**

## **III. Session 2 - ALARA Performance Assessment**

### **A. Background and Review.**

- **Goals and Objectives.**
- **ROP Framework.**
- **Assumptions in current ALARA assessment basis.**

### **B. Facilitated Discussion.**

- **NRC identified issues and proposed resolutions.**
- **Industry identified issues and proposals.**
- **Stakeholder input.**

### **C. Summary and Conclusions.**

# **RADIATION SAFETY ISSUES**

## **PUBLIC RADIATION SAFETY**

### **ISSUE 1:**

**Change to the Transportation section of the PUBLIC RADIATION SAFETY SDP.**

### **BACKGROUND:**

**The Part 61.55 Waste Classification section of the Transportation SDP was expanded to offer extra decision diamonds to refine the risk significance process into separate steps which correspond to the different levels of risk based on the type of radioactive waste being transported.**

### **WORKSHOP ACTIVITY:**

**Discuss the change which was included in the latest revision to Manual Chapter 0609 and solicit any stakeholder feedback.**

# **RADIATION SAFETY ISSUES**

## **PUBLIC RADIATION SAFETY**

### **ISSUE 2:**

**Radioactive Material Control section of the SDP.**

**Clarification is needed to determine the adequacy of licensee controls to assure that licensed radioactive material is controlled and not inadvertently released offsite.**

### **BACKGROUND:**

**A draft position paper was distributed for comment to stakeholders during a public meeting on November 15, 2000. This issue continues to be discussed during periodic public stakeholder meetings.**

### **WORKSHOP ACTIVITY:**

**Describe NRC's position and solicit stakeholder feedback.**



# **RADIATION SAFETY ISSUES**

## **PUBLIC RADIATION SAFETY**

### **ISSUE 3:**

**Time frame to be used for counting radioactive material control occurrences is inconsistently applied.**

### **BACKGROUND:**

**Clarification is needed on the appropriate and consistent time accounting model that should be used for counting radioactive material occurrences over the two year inspection cycle of IP 71122.03.**

### **WORKSHOP ACTIVITY:**

**Discuss NRC's proposal to use a rolling calendar quarter approach and solicit stakeholder feedback.**

# **RADIATION SAFETY ISSUES**

## **Occupational Radiation Safety SDP**

### **ISSUE 1:**

**Revise Radiation Exposure Control section of the Occupational Radiation Safety SDP to clarify how the SDP reflects the Commission's policy on enforcement discretion for skin overexposures from hot particles (or discrete radioactive particles).**

### **BACKGROUND:**

**The foot note in the SDP diagram, as well as the discussion text, in MC 0609 was included to account for the interim hot particle enforcement policy concerning skin dose (shallow dose equivalent) overexposures from hot particles. However, as written the SDP appears to exclude all hot particle exposures, including whole body (deep dose equivalent) as well as skin dose from hot particles not subject to the enforcement discretion.**

### **WORKSHOP ACTIVITY:**

**Discuss the scope of the Commission's hot particle enforcement discretion policy and the intended SDP outcome for a hot particle exposure.**

# **RADIATION SAFETY ISSUES**

## **Occupational Radiation Safety**

### **ISSUE 2:**

**Implementation of a collective dose screening criteria in the ALARA portion of the SDP may result in either too harsh or too lenient an agency response to similar ALARA issues.**

### **BACKGROUND:**

**The current Group two screening criteria in MC 0610\* screens out all issues identified at plants that have a rolling three year average collective dose equal to or below the screening criteria. This was intended intent to focus agency response on those plants with relatively poorer performance. The unintended consequence of this SDP structure is that the individual occurrence of ALARA failure at better overall ALARA performers cannot be documented in the inspection report.**

**Since the SDP is based on a “per job” performance outcome, Licensee’s with three year average collective doses above the screening criteria are at risk for multiple WHITE findings (ending up in a degraded cornerstone) from one bad outage.**

### **WORKSHOP ACTIVITY:**

**Conduct a facilitated interactive session to develop resolutions of these issues or identify an alternative course of action.**

# **RADIATION SAFETY ISSUES**

## **OCCUPATIONAL RADIATION SAFETY SDP**

### **ISSUE 3:**

**The current basis of the ALARA portion of the SDP (i.e., comparing actual dose expended to dose projection for each job) leaves it open to artificial manipulation of the outcomes.**

### **BACKGROUND:**

**The SDP structure was designed to evaluate the licensee's performance in ALARA on a per job basis. In context, the term "job" refers to the basic unit of work that the licensee has defined for the purpose of ALARA planning and work controls.**

**It has been recognized since the SDP was developed that licensees could base the outcome of ALARA results by over-inflating or not even performing job estimates.**

### **WORKSHOP ACTIVITY:**

**Conduct a facilitated interactive session to develop resolutions of these issues or identify an alternative course of action.**

## **CROSS CUTTING ISSUES and PROBLEM IDENTIFICATION AND RESOLUTION**

### **SESSION OBJECTIVES:**

**To inform stakeholders of concerns regarding the role of cross cutting areas in the ROP, ongoing activities to address these issues and possible enhancements to how the NRC inspects licensee problem identification and resolution (PI&R) activities.**

**To solicit stakeholder feedback and possible consensus on related issues.**

### **ISSUES:**

**Does ROP provide sufficient information on cross cutting areas?  
Does the ROP encompass all pertinent cross cutting areas?  
Does the ROP appropriately address cross cutting issues?  
What is the appropriate frequency of the PI&R team inspection?**

## **CROSS CUTTING ISSUES and PROBLEM IDENTIFICATION AND RESOLUTION**

### **ISSUE: NO. 1:**

**Do the performance indicators and baseline inspection program provide sufficient information regarding performance in the cross cutting areas of human performance, safety conscious work environment, and problem identification and resolution (PI & R)?**

### **BACKGROUND:**

**During the development of the oversight process and during initial implementation, some individuals have expressed a concern that licensee performance in the cross cutting areas of human performance, safety conscious work environment, and PI & R could become degraded without being detected, and that this degradation of performance would be a safety concern.**

### **WORKSHOP ACTIVITY:**

**Discuss NRC's current approach and solicit stakeholder feedback.**

## **CROSS CUTTING ISSUES and PROBLEM IDENTIFICATION AND RESOLUTION**

### **ISSUE NO. 2:**

**Are there other cross cutting issues that warrant additional consideration in the revised oversight process?**

### **BACKGROUND:**

**During development of the revised oversight process (ROP) and during initial implementation, some individuals have expressed that there may be additional cross cutting issues other than the three identified (safety conscious work environment, human performance, and problem identification and resolution), and that these cross cutting areas are not being adequately addressed in the ROP.**

### **WORKSHOP ACTIVITY:**

**Discuss NRC's current approach and solicit stakeholder feedback.**

# **CROSS CUTTING ISSUES and PROBLEM IDENTIFICATION AND RESOLUTION**

## **ISSUE NO. 3:**

**Does the revised reactor oversight process (e.g., inspection program, significance determination processes (SDPs), action matrix) provide for proper treatment of cross cutting issues when they are identified? Should the approach be the same for all cross cutting issues or should the approach vary?**

## **BACKGROUND:**

**The ROP addresses cross cutting issues (CIs) by highlighting them in inspection reports when they are notable contributors to inspection findings or if there is an appreciable trend or pattern that has emerged; and in assessment letters to the licensee when they constitute a substantive issue. Recent changes to Inspection Manual Chapter 0610\* better explain when and how CIs should be documented in inspection reports. The ROP does not allow for additional NRC engagement on CIs unless they are contributing causes to PIs or inspection findings that are characterized as white or greater.**

## **WORKSHOP ACTIVITY:**

**Discuss NRC's current approach and solicit stakeholder feedback.**



## **CROSS CUTTING ISSUES and PROBLEM IDENTIFICATION AND RESOLUTION**

### **ISSUE NO. 4:**

**Should we change the frequency of the annual problem identification and resolution (PI & R) inspection?**

### **BACKGROUND:**

**Some individuals have recommended decreasing the frequency of the annual PI & R inspection. The initial results from the first round of inspections would generally support a reduction in frequency. While several inspections conducted during initial implementation of the revised oversight process identified concerns with aspects of licensee's PI & R programs and a number of green findings have resulted, none of these concerns were determined to have more than very low safety significance. However, better insights may be garnered through smaller, more frequent inspections of selected issues. The baseline inspection program currently includes approximately 400 hours per year allocated to PI & R reviews through both an annual team and routine inspections.**

### **WORKSHOP ACTIVITY:**

**Discuss NRC's current approach and intended refinements and solicit stakeholder feedback to consider in revising NRC's approach to inspecting PI&R.**

## **PHYSICAL PROTECTION ISSUES**

### **SESSION OBJECTIVE:**

**The objective of this session is to describe challenges associated with the current performance indicators and potential refinements to address these issues, and to solicit stakeholder feedback.**

### **ISSUE:**

**Assess the physical protection performance indicators to see whether they clearly accomplish their stated purpose.**

## **PHYSICAL PROTECTION ISSUES**

### **ISSUE**

**The IMC 0610\*, Appendix B (Thresholds for Documentation), Group 2 question for Physical Protection was unclear.**

### **BACKGROUND:**

**The past Physical Protection Group 2 question was "Does the issue involve a nonconformance with safeguards requirements?"**

### **WORKSHOP ACTIVITY:**

**Describe current guidelines and solicit stakeholder feedback.**

# **PHYSICAL PROTECTION ISSUES**

## **FORCE-ON-FORCE EXERCISES (OSRE)**

### **ISSUE:**

**The safeguards baseline inspection procedures require consolidation and clarification, particularly as they relate to force-on-force exercises (OSRE).**

### **BACKGROUND:**

**The safeguards baseline inspection procedures need to be modified in order to consolidate and clarify baseline requirements, particularly as they relate to force-on-force exercises (OSRE).**

### **WORKSHOP ACTIVITY:**

**Describe proposed inspection procedures and solicit stakeholder feedback.**

# **PHYSICAL PROTECTION ISSUES**

## **PHYSICAL PROTECTION SIGNIFICANCE DETERMINATION PROCESS (PPSDP)**

### **ISSUE:**

**Revisions to the PPSDP (IMC 0609, Appendix E) were made to incorporate Commission direction contained in COMSECY-00-0036 and to provide additional objectivity, understandability and predictability to the process.**

### **BACKGROUND:**

**The use of the reactor safety SDP to evaluate the results of force-on-force security exercises was demonstrated to be unusable during the initial implementation year. The interim PPSDP was issued. A final PPSDP is in draft.**

### **WORKSHOP ACTIVITY:**

**Describe proposed draft PPSDP and solicit stakeholder feedback.**

# **PHYSICAL PROTECTION ISSUES**

## **PHYSICAL PROTECTION PERFORMANCE INDICATORS**

### **ISSUE:**

**Continue the dialog to assess the physical protection performance indicators to see whether they clearly accomplish their stated purpose ... “to provide baseline and trend information needed to evaluate each licensee’s physical protection and access authorization systems. The regulatory purpose is to provide high assurance that these systems will function to protect against the design basis threat.”**

### **Background:**

**The adequacy and effectiveness of the physical security performance indicators was identified as a issue of public interest during the External Workshop Meeting held on January 10-13, 2000. With a year’s experience, the PI can be revisited for potential improvements.**

### **WORKSHOP ACTIVITY:**

**Describe ROP initial experience with Physical Protection Pls, potential refinements and solicit stakeholder feedback.**

## **MAINTENANCE EFFECTIVENESS**

### **SESSION OBJECTIVE:**

**Discuss challenges associated with (a)(4)-related findings and the current Reactor Safety Significance Determination Process (SDP), discuss proposed SDP enhancement, and solicit stakeholder feedback.**

### **ISSUE:**

**The significance of certain maintenance rule performance issues cannot be assessed with the existing SDP.**

## **MAINTENANCE EFFECTIVENESS**

### **ISSUE:**

**The significance of certain maintenance rule performance issues cannot be assessed with the existing SDP.**

### **BACKGROUND:**

**The existing Reactor Safety SDP does not clearly address issues related to risk assessment and risk management associated with performance of maintenance activities. Phase 2 site-specific inspection notebooks lack the necessary level of detail and completeness to assess maintenance configurations with multiple equipment out-of-service.**

### **WORKSHOP ACTIVITY:**

**Panel presentation and discussion to solicit stakeholder feedback on NRC's proposed (a)(4) SDP approach.**



# **ASSESSMENT AND ENFORCEMENT ISSUES**

## **SESSION OBJECTIVE:**

**To present information, obtain stakeholder feedback, develop potential approaches, and reach consensus on identified approaches for selected assessment and enforcement issues.**

## **AFTERNOON SESSION:**

**Brief discussion of the following topics:**

- 1) 50.9 enforcement of PI reporting errors**
- 2) Enforcement consistency in the ROP**
- 3) The disposition of no color findings**
- 4) The role of regulatory conferences**

## **MORNING SESSION:**

**Detailed discussion of the following issues**

**Issue 5: Appropriate actions for a PI that re-enters the green band without proper corrective action**

**Issue 6: The role of historical issues in the ROP**

# **ASSESSMENT AND ENFORCEMENT ISSUES**

## **ISSUE 1:**

**How will NRC pursue enforcement of performance indicator (PI) reporting errors since enforcement discretion ended earlier this year?**

## **BACKGROUND:**

**During the pilot program and most of the first year of initial implementation, the NRC applied blanket enforcement discretion to PI reporting errors that could be subject to a 10CFR50.9 violation (completeness and accuracy of information provided to the NRC.) Currently, the Enforcement Policy allows the staff to consider factors such as the clarity of the reporting guidance, licensee efforts to ensure accurate reporting, and the potential impact of the inaccurate information when determining if discretion is appropriate. In accurate information submitted as part of a pilot activity would not constitute a violation if the information was not the basis for regulatory decision.**

## **WORKSHOP ACTIVITY:**

**Presentation of current guidance and solicitation of public feedback.**

## **ASSESSMENT AND ENFORCEMENT ISSUES**

### **ISSUE 2:**

**Some stakeholders have raised concern that enforcement has not been applied consistently and clearly during the ROP for certain situations.**

### **BACKGROUND:**

**There have been issues raised by the Union of Concerned Scientists (UCS) regarding two recent enforcement actions, one in response to individual wrong doing and the other in response to a licensee who misapplied the maintenance rule on a number of systems during an extended outage. The staff has responded to UCS to explain re-affirmation to its actions regarding these issues.**

### **WORKSHOP ACTIVITY:**

**Present the current enforcement policy as it applies to individuals and licensees and solicit public feedback on any potential areas for improvement.**

## **ASSESSMENT AND ENFORCEMENT ISSUES**

### **ISSUE 3:**

**The role of no color findings in the ROP is not clear and has contributed to program inconsistencies.**

### **BACKGROUND:**

**Associated with extenuating circumstances listed in Manual Chapter 0610\***

**These included traditional enforcement substantive cross-cutting issues, agency- wide concerns, or LER closeout**

**Early guidance was non-specific**

**Intended to be of a significant regulatory nature and small in number**

### **WORKSHOP ACTIVITY:**

**Presentation of issue and NRC proposed resolution, followed by a group discussion including stakeholder feedback**

## **ASSESSMENT AND ENFORCEMENT ISSUES**

### **ISSUE 4:**

**There is some confusion regarding the purpose of a regulatory conference and a regulatory performance meeting**

### **BACKGROUND:**

**Regulatory Conferences are to obtain licensee input on significance of issue and any apparent violations, not a discussion of licensee corrective actions**

**Regulatory Performance Meetings are to discuss adequacy of corrective actions and licensee performance relative to their standing in the Action Matrix**

### **WORKSHOP ACTIVITY:**

**Presentation of issue and NRC proposed resolution followed by a group discussion including stakeholder feedback**

# **ASSESSMENT AND ENFORCEMENT ISSUES**

## **ISSUE 5:**

**What are the appropriate actions for a plant that has a safety-significant PI that re-enters the green band even though the licensee's response, relative to its root cause evaluation of the issue, is inadequate?**

## **BACKGROUND:**

**Inspection findings normally carried forward for 4 quarters  
Findings not removed from Action Matrix with ineffective corrective actions or root cause  
No similar provision for PIs need appropriate considerations for both situations  
Recently Kewaunee had two supplemental inspections with poor root cause evaluation  
which resulted in a parallel inspection finding.**

## **CONSIDERATIONS:**

**Opportunity for licensee input  
Criteria that the agency should consider  
How to capture licensee input  
Is finding against original deficiency or Corrective Action Program  
Appropriate time/method of parallel finding removal**

## **WORKSHOP ACTIVITY:**

**Discuss the issue and conduct brainstorming session in order to converge on a consensus approach.**

# **ASSESSMENT AND ENFORCEMENT ISSUES**

## **ISSUE 6:**

**How should historical issues that have safety significance, but are not reflective of current performance (e.g. Oconee design issue), be addressed in the ROP**

## **BACKGROUND:**

**Assessment program determines agency action based upon current performance (updated quarterly)**

**Historical issues may not be reflective of current performance**

**Licensee actions that identify safety issues may be reflective of good performance**

## **CONSIDERATIONS:**

**How reflective are current plant conditions of licensee performance?**

**What types of issues are reflective of plant conditions/ licensee performance?**

**Approach should ensure ROP encourages licensee self-identification of issues**

## **WORKSHOP ACTIVITY:**

**Discussion of the issue, including identification of possible approaches with convergence towards a consensus viewpoint a desired outcome.**

# **COMMUNICATION ISSUES**

## **SESSION OBJECTIVES:**

**Present information and key issues. Solicit feedback from stakeholders on NRC's activities, and develop consensus on selected issues associated with communication activities related to the Reactor Oversight Process.**

## **ISSUES:**

**Inspection Reports and insights beyond Inspection Reports  
Annual Licensee Assessment  
Reactor Oversight WEB page  
Public Communication associated with the Significance Determination Process  
Appropriately considering public feedback**



# **COMMUNICATING INSPECTION RESULTS AND INSPECTOR INSIGHTS**

## **ISSUE:**

**Some NRC staff are reluctant to provide insights beyond what is documented in inspection reports because of the changes in reporting threshold and lack of guidance in this area.**

## **BACKGROUND:**

**Manual Chapter 0610\* raised the threshold for documenting by eliminating minor findings, Inspector observations, licensee identified findings (not violations), weaknesses and positive findings, and removed non-regulatory issues**

## **WORKSHOP ACTIVITY:**

**Present guidelines developed by the NRC for presenting insights outside the inspection report, and solicit stakeholder feedback**

# **PUBLIC COMMUNICATION ASSOCIATED WITH THE SIGNIFICANCE DETERMINATION PROCESS**

## **ISSUE:**

**Some stakeholders have expressed concern that the NRC's Significance Determination Process results in negotiations between the NRC and licensee that are not done in a public way.**

## **BACKGROUND:**

**Existing guidance requires information that is considered by NRC to be docketed or at least referenced in inspection reports.**

## **WORKSHOP ACTIVITY:**

**Present current SDP approach relative to information collection and documentation and solicit feedback on where improvements can be made.**

## **ANNUAL ASSESSMENT WITH LICENSEES**

### **ISSUE:**

**Having a public Annual Assessment Meeting may not be effective and efficient application of NRC and licensee resources.**

### **BACKGROUND:**

**A. Some stakeholders have observed that if a plant is in the licensee response band (All Green) why do we need to conduct an annual meeting with the licensee?**

**B. Current approach should be augmented so that the NRC can effectively interact with the public.**

### **WORKSHOP ACTIVITY:**

**Describe NRC's current guidance and solicit feedback on possible improvements or alternate approaches.**

## **ROP WEB SITE**

### **ISSUE:**

**The ROP WEB site has been developed to provide greater access to key plant performance and ROP related information. Refinements have been made over the year to improve the content.**

### **BACKGROUND:**

**A substantial WEB Site has been established to disseminate information to the public. This site provides information on plant performance and reactor oversight related guidance and information. Feedback has generally been very positive but some negative feedback has been received.**

### **WORKSHOP ACTIVITIES:**

**Present information, including future enhancements and solicit stakeholder feedback on possible improvements.**

## **PUBLIC FEEDBACK**

### **ISSUE:**

**To what degree and how should NRC consider incorporating public feedback into the Reactor Oversight Process (ROP).**

### **BACKGROUND:**

**Some stakeholders are unclear on how feedback they provide the NRC on the ROP is considered. The NRC's current feedback process allows for incorporating public feedback, but this is not well understood.**

### **WORKSHOP ACTIVITY:**

**Panel discussion with external stakeholders on role of public in providing feedback and possible improvements to NRC's public communication and feedback as it applies to the ROP.**

# **REACTOR SAFETY PERFORMANCE INDICATOR ISSUES**

# REACTOR OVERSIGHT PROCESS INITIAL IMPLEMENTATION PUBLIC WORKSHOP

## ISSUE 1A:

### SAFETY SYSTEM UNAVAILABILITY PI

NOTE: The Nuclear Energy Institute (NEI) formed a working group that established a strawman to propose changes to the Safety System Unavailability (SSU) PI used in the Reactor Oversight Process (ROP). The NRC established a Focus Group to recommend near-term improvements to the SSU indicators for a future revision of NEI 99-02. The NRC's proposal was intended to provide meaningful and appropriate indication of the availability of monitored systems until Risk-Based Performance Indicators (RBPI) are developed by the NRC's Office of Nuclear Regulatory Research. The two groups worked independently, then met jointly to discuss their results. The outcome of these efforts is described in the Proposed Resolution sections below.

1. What unavailable hours should be included in the SSU PI?
  - a. Should all unavailable hours of a train be counted whenever the function is required, or only when the train is required?
  - b. Should on-line maintenance be excluded from the SSU if the licensee has a risk analysis that shows the increase in risk is small?
  - c. Should support system unavailable hours be counted as monitored system unavailable hours?
  - d. Should unavailable hours due to design deficiencies be excluded from the SSU PI?

## BACKGROUND:

- a. The SSU PI was derived from the WANO Safety System Performance Indicator (SSPI). The WANO SSPI (and consequently the ROP SSU) does not include unavailable hours that occur when a train is not required to be operable by Tech Specs, even though the function may be required. For example, in cold shutdown, refueling or defueled, only one train of emergency ac power is required. Any maintenance, including overhaul, on another train is not included in the SSU calculation for that train. Should all unavailable hours of a train be counted whenever the function is required, or only when the train is required?
- b. There was a perceived unfairness in counting unavailable hours for licensees that perform on-line maintenance in accordance with a risk-informed tech spec change that extended the AOT for that purpose, because off-line maintenance is not counted and the risk is comparable. Should on-line maintenance be excluded from the SSU if the licensee has a risk analysis that shows the increase in risk is small?
- c. The WANO SSPI includes unavailable hours for a monitored system when support system unavailability (except emergency ac power) renders the

monitored system unavailable. Should such support system unavailable hours be counted as monitored system unavailable hours? If so, what requirements would be placed on the support system to assess unavailability of the monitored system, e.g., must the support system be single failure proof and/or meet all design basis requirements?

d. Design deficiencies can manifest themselves years later. The time of failure would normally be known and could produce large fault exposure hours that could result in a non-green PI for up to three years. To avoid such a situation, the ROP excludes design deficiencies from the PI calculation. Should unavailable hours due to design deficiencies be excluded from the SSU PI?

#### **PROPOSED RESOLUTION:**

a. The NRC Focus Group and the NEI/Industry working group agree that the correct way to measure unavailability during power operation is to count unavailable hours when any train of any system whose function is required by Technical Specifications is not available. There is also agreement that, while shutdown, the licensee's shutdown management plan would identify those safety functions and methods necessary to manage the increase in risk that may result from shutdown activities. The NEI/Industry working group proposes to count unavailability of the primary and first backup methods of performing a safety function. The NRC Focus Group would count unavailable hours for any method for performing a safety function that is credited in that plan; a factor to be considered in such an approach is the possibility that this could provide a disincentive for licensees to provide more than two methods of performing a safety function. Both groups agree that unavailable hours during power operation and while shutdown should be tracked separately. The NRC would eventually like to have separate indicators for the two phases of operation. However, until shutdown indicators are developed, unavailable hours while at power and shut down may be combined for both the residual heat removal and the emergency ac power systems.

b. The NRC proposes to count unavailable hours for on-line maintenance for any train of any system whose function is required by T.S.

c. The NRC and NEI agree that, as long as support systems are not monitored in the ROP SSU, support system unavailable hours should be included in (cascaded to) the monitored systems. We also agree that the support system is available if a single train of that system is available (i.e., support systems are not required to be single-failure proof).

d. The NRC position is that long-standing design deficiencies should not be included in the SSU, and that there needs to be a definition of "long-standing design deficiencies" (one proposed definition was "those that occurred before the 12 quarter period of the current calculation").



# REACTOR OVERSIGHT PROCESS

## INITIAL IMPLEMENTATION PUBLIC WORKSHOP

### ISSUE 1B:

#### How should start and run failures be handled in the SSU?

- a. Is a reliability indicator necessary, or can the SSU alone provide meaningful indication of safety system performance?
- b. Should estimates of fault exposure hours be used in lieu of an unreliability indicator? Are there acceptable alternatives?
- c. Should the ROP include a provision to allow licensees to remove large increments of fault exposure hours after one year if the NRC has approved the licensee's corrective actions?

### BACKGROUND:

The WANO SSPI does not use an unreliability indicator. Instead, WANO incorporates unreliability into the SSU through the use of fault exposure hours (FEHs) associated with a train failure (although not explicitly stated, the failure should include run failures as well as start failures). If the time of discovery of the failure is known but the time of failure is not known, the fault exposure time is taken as one-half the time ( $t/2$ ) since the last successful test or operation of the train. The problem is that the  $t/2$  estimate will usually dominate the unavailable hours. Should estimates of fault exposure hours be used in lieu of an unreliability indicator? Are there acceptable alternatives to the use of estimated FEHs, such as using a baseline inspection to assess the risk of start and run failures? Or should an unreliability indicator be developed for use prior to the completion of the RBPI effort? If an unreliability indicator is used, how are FEHs then used for discovered conditions, such as a closed manual valve in the injection path of a monitored system?

A large increment of fault exposure hours, such as might occur due to a failed surveillance test of 30 days or longer interval, could result in a non-green PI for up to three years. This creates two concerns. First, any additional problems in that train could be masked, since the white band is from one to three times the width of the green band, so that another threshold might not be crossed to trigger additional NRC engagement. Second, after some period of time, the PI is no longer indicative of current performance. For these reasons, a provision has been added to the ROP SSU to allow licensees to remove large ( $\geq 336$  hours) increments of FEHs due to a single event or condition after one year if the problem has been corrected and the NRC Region has approved the resolution. Should the ROP include a provision to allow licensees to remove large increments of fault exposure hours after one year if the NRC has approved the licensee's corrective actions?

## PROPOSED RESOLUTION:

- a. The working groups agree that an unreliability indicator is the preferred way to measure most start and run failures, and that an unavailability indicator alone cannot provide a complete indication of overall safety system performance.
- b. The NRC and NEI groups agree that the current provision for use of fault exposure hours as a substitute for on-demand unreliability is satisfactory. But the groups also agree that the ROP experience in the use of such FEHs has on several occasions overstated the risk at the plant and could limit the NRC's ability to respond to additional performance issues. The two groups agree that the best solution is to remove from the SSU FEHs due to events that would normally be captured in an unreliability indicator, and to use the Significance Determination Process (SDP) to assess those events.

Although there has been some talk of the need for including FEHs in the unavailability indicator for some specific cases, even when an unreliability indicator is in place, there has been no significant discussion of how this would impact treatment of start and run failures. The NRC's position is as follows. Failure of a safety train to perform its safety function upon demand would result in the licensee performing an analysis to determine the cause of the failure. If the failure occurred because of the demand, the failure would be evaluated through the SDP process with unavailable hours included in the SSU only from the time of discovery of the failure until the time of restoration of the safety function. However, if the failure was caused by a pre-existing condition, such as improper maintenance at some time in the past, unavailable hours would be counted in the SSU from the time of occurrence of the condition (the improper maintenance), if known, until the time of restoration of the safety function. If the time of occurrence of the condition is unknown, FEHs will be estimated as one-half the time since the last known successful operation of the train.

- c. The NRC and NEI agree that the current provision to remove from the SSU FEHs due to unreliability issues will greatly reduce the problem, and that, for large increments of FEHs, this provision is acceptable.

## **REACTOR OVERSIGHT PROCESS INITIAL IMPLEMENTATION PUBLIC WORKSHOP**

### **ISSUE 1C:**

#### **What credit should be allowed for operator recovery actions?**

##### **BACKGROUND:**

The SSU allows credit for operator actions to restore a train when a demand is received during surveillance testing if the actions are virtually certain to be successful. licensees have requested credit for operator actions to recover from uncomplicated maintenance configurations, and from more complicated maintenance or test configurations when there is sufficient time until the train is required by the accident analysis. Probabilistic Safety Analyses include probabilities of operator recovery actions as important components in the progression of any accident scenario. In the ROP, credit has been limited because the SSU PI measures equipment performance, not operator performance. If the recovery actions are virtually certain to be successful, then the probability is near 1 and credit can be given. Anything short of 'virtually certain' requires estimation of a number less than 1, which is likely dependent upon the situation, the crew, and perhaps the specific operator involved. Therefore no credit is given. Maintenance activities conducted during chaotic conditions in the course of an analyzed accident are not considered to be virtually certain. Should the SSU allow credit for operator actions that are virtually certain to be successful? Should there be credit allowed for more complicated recovery actions? If so, what conditions should be applied to such actions?

##### **PROPOSED RESOLUTION:**

The NRC position is that the current allowances for operator recovery actions for monitored systems should be retained with no changes or additions. However, the NEI/Industry working group would like to allow broader credit for availability of support systems under certain circumstances. The NRC has agreed to consider an industry proposal to that end.

## **REACTOR OVERSIGHT PROCESS INITIAL IMPLEMENTATION PUBLIC WORKSHOP**

### **ISSUE 1D:**

**Should default values for hours train required be allowed?**

### **BACKGROUND:**

The calculation of the SSU uses, as the denominator in the calculation of train unavailability, the hours the train was required during the most recent 12 quarters. The WANO guidance has allowed licensees to estimate this number through the use of default hours to reduce the data collection burden on licensees. In some cases, the default value is non-conservative in that the denominator would be larger than the actual required hours. This will cause the calculated value to be lower than the true value. In the case of the EDG SSU, the error could be as much as 60 percent. Should the ROP allow licensees to use the non-conservative default hours approved by WANO? If not, is there an acceptable alternative estimate?

### **PROPOSED RESOLUTION:**

NEI proposes to allow the use of default values for the hours a train is required because of the burden on licensees to collect the actual information. The NRC has data that show the calculated SSU value can, in some cases, be significantly understated when the default hours are used. The NRC position is that non-conservative default values should not be used. The NRC has agreed to consider an industry proposal that would provide guidelines for licensees on when the use of default hours is acceptable and when it is not.

## **SCHEDULE FOR IMPLEMENTATION OF IMPROVED SSU PI**

May 18, 2001 - Issue revised guidance

May 21, 2001 - Workshop for pilot plants

June 1, 2001 - Commence six month pilot program

December 21, 2001 - Pilot program final data submission

January 31, 2002 - Complete pilot program data analysis

February and March 2002 - Conduct workshops and training on revised indicator

April 2002 - Implement revised SSU guidance

# **REACTOR OVERSIGHT PROCESS INITIAL IMPLEMENTATION PUBLIC WORKSHOP**

## **ISSUE 2:**

### **UNPLANNED POWER CHANGES PER 7,000 CRITICAL HOURS**

The definition of "unplanned power changes" is "changes in reactor power that are initiated less than 72 hours following the discovery of an off-normal condition.... that .... require a change in power level of greater than 20% of full power to resolve." Licensees have, in some instances, deferred maintenance beyond 72 hours to avoid a count in this indicator. There are also instances where licensees have modified operating procedures to limit power reductions for equipment problems to less than 20% avoid a count in this indicator.

## **BACKGROUND:**

This indicator was patterned after the unit shutdowns and power reductions reported in licensees' monthly operating reports (MOR). It is used because the NRC has observed that plants that run smoothly, with few changes in reactor power, tend to be safer plants. There is a reasonably good correlation between plants with many unintended changes in reactor power and plants the NRC has in the past placed on the watch list or sent declining trend letters. The definition of a forced power reduction in the MOR was not used in this PI because of industry concerns that that definition does not accurately reflect the time required to adequately plan a power reduction, and because deregulation could affect the number of power reductions to address equipment problems that licensees undertake. However, the MOR definition is unrelated to the time required to plan a power reduction. It was intended to identify power reductions that were required to be conducted at the earliest opportunity, which was historically considered to be the next weekend after discovery of the off-normal condition. Power reductions in and of themselves require very little planning; planning is required for the work to be conducted during the power reduction, something that is not related to the purpose of this indicator. The 72 hour period is the sole factor in determining whether a power change is planned, not the extent of planning that is performed. Because the time to adequately plan the work to be done can vary considerably from one situation to another, and because the PI requires a defined change in power level (20%) to be counted, there may be, in some instances, an incentive for licensees to manage their plant to the indicator.

## **PROPOSED RESOLUTION:**

A new indicator has been developed that is intended to minimize the unintended consequences of this PI, and a pilot program of this indicator will commence in the near future.

# **REACTOR OVERSIGHT PROCESS INITIAL IMPLEMENTATION PUBLIC WORKSHOP**

## **ISSUE 3:**

### **UNPLANNED SCRAMS PER 7,000 CRITICAL HOURS**

Some industry managers perceive the potential for negative consequences from counting manual scrams. There is a potential for a negative impact on the PI program from the proposed replacement PI.

## **BACKGROUND:**

The concern is that an operator may be influenced by the indicator to not scram the reactor when required. A new definition for a replacement indicator has been developed and is currently undergoing a pilot program. The intent of the new PI is to continue to collect the same information that is captured in the existing PI. The indicator is named "Unplanned Reactor Shutdowns per 7,000 critical hours." It does not use the word "scram," but defines an unplanned reactor shutdown as a "shutdown of the reactor in response to off-normal conditions or events by the unplanned addition of negative reactivity by any means (e.g., insertion of control rods, boron, or opening reactor trip breakers). Unplanned reactor shutdowns are those that bring the reactor from criticality to a shutdown mode within 15 minutes of commencing to insert negative reactivity." The replacement indicator is not as clear as the current PI about what is and is not expected to be reported. It therefore has the potential to cause more confusion and questions, which could result in greater burden on licensees as well as on the NRC staff.

## **PROPOSED RESOLUTION:**

The pilot program began with the submission of data for October 2000 by 21 plants. The last monthly report in the program was received on March 21, 2001. A determination will be made on to whether or not to replace the existing PI.

# **FIRE PROTECTION ISSUES**



# **REACTOR OVERSIGHT PROCESS INITIAL IMPLEMENTATION PUBLIC WORKSHOP**

## **FIRE PROTECTION ISSUE**

### **ISSUE NO. 1:**

Improvements need to be made to the fire protection Significance Determination Process (SDP) to make it more effective and efficient to use. Those improvements are to develop tools or improve guidance in (1) fire scenario development, (2) fire frequency data, (3) fire brigade evaluation, and (4) evaluation of manual actions.

### **BACKGROUND:**

The need for these improvements has become apparent through using the fire protection SDP to evaluate fire protection inspection findings. The Individual Plant Examination of External Event (IPEEE) performed in response to Generic Letter 88-20 Supplement 4, and NUREG-1407, have shown that fire is a significant contributor to Core Damage Frequency (CDF) in a majority of plants. In some cases, fire contribution to CDF can approach (or even exceed) the contributions from internal events.

(1) Currently, fire scenarios are developed qualitatively, without the benefit of quantitative tools. Fire scenarios development needs to become more scientific and less subjective. Also, availability of such a tool would assure consistency across the Regions.

(2) A need exists to improve the quality and availability of fire ignition frequency data. The NRC's latest study used data up through 1994, and is out-of-date. Currently, fire frequency input is a significant factor in the risk-informed analysis and the data should be as current as possible to provide the most accurate assessment.

(3) There needs to be a mechanism to improve the validity and objectivity of the evaluation of fire brigade performance for use in the SDP. Currently, fire brigade drills are not conducted during the triennial inspection. Since the triennial inspection team does not observe a drill, it is difficult or impossible for them to determine the level of degradation of the fire brigade.

(4) The current SDP does not account for the feasibility and effectiveness of human actions unique to fire scenarios. Inspectors are identifying special circumstances due to fire that need to be taken into account in the SDP evaluation of human actions.

## **PROPOSED RESOLUTION:**

(1) The proposed resolution for fire scenario development is to develop tools (spreadsheets or other quantitative techniques) that predict fire behavior based on known initial conditions and delineate the limitations of those tools.

(2) Updating the NRC study for fire ignition frequencies would provide the most up-to-date data on fire ignition frequency.

(3) To address the performance of the fire brigade, guidance should be developed to enable the resident inspector to effectively evaluate the fire brigade performance during drills. Documentation of this evaluation by the resident would follow. This assessment would be used by the triennial inspection team to determine the level of degradation of the fire brigade needed in the SDP. If possible, the regional team, will assist the resident in his evaluation of the fire brigade. The fire brigade evaluation should consider if the drill is performed in risk significant areas.

(4) Finally for manual actions, NRC should develop a process which evaluates the feasibility and effectiveness of fire specific human actions. This process would first identify if the identified human actions were possible, and if so, provide a quantitative basis on which to evaluate them.

The Fire Protection Focus Group (FPFG) recommends improvements in Fire Protection SDP Guidance in IMC 0609 to include documentation on:

- (1) electronic spreadsheet for fire scenario simulation
- (2) improved guidance for inspectors to evaluate the fire brigade
- (3) utilization of updated fire ignition frequency study
- (4) guidance on evaluating human actions impacted by fire, or in response to a fire

These recommendations were approved at the NRC Internal Lesson Learned Workshop held on march 7, 2001. The group at the workshop further recommended that the FPFG continue to meet on a periodic basis and update the Fire Protection issues as necessary.

# REACTOR OVERSIGHT PROCESS INITIAL IMPLEMENTATION PUBLIC WORKSHOP

## FIRE PROTECTION ISSUES

### ISSUE NO. 2:

The plant fire protection licensing bases and approved processes for changing them are not always clear to inspectors and licensees. This complicates performing fire protection inspections because we often disagree with the licensees on the exact licensing basis for the plant and such issues tend to be difficult to resolve.

### BACKGROUND:

- a. Resolving Licensing Basis Issues: Plant fire protection licensing bases often involve differing interpretations, requiring NRR resolution. Some involve potentially generic issues for which TIAs or other vehicles may be written. **The current system for resolving generic issues has the following shortcomings:**
  - 1) The resolution path and status of generic issues are not always readily available to inspectors. This complicates regional resource planning for ultimate generic issue closeout, requires unnecessary expenditure of effort contacting the program office for generic issue status, and does not promote efficient communication between the regions and NRR on issues.
  - 2) Accountability may be lacking on some issues. This increases the likelihood of an issue dropping through the cracks during the handoff between the regions and NRR.
- b. Changes to licenses: Many licensees have modified their facility, by removing fire protection features (e.g., Thermo-Lag) and substituting additional manual operator actions, using the 50.59 process. Since fires are not postulated to occur during accidents evaluated in the UFSAR, licensees could potentially remove almost all fire protection features under 50.59. In addition, not all licensees have thermal-hydraulic time lines or other analysis techniques to support the use of these manual actions. Also, licensees may not be appropriately following their license condition requiring that changes to the fire protection program do not adversely affect safe shutdown. Finally, licensees may not be following requirements of GDC 3 and 50.48. **Inspectors have not been trained on and may not understand the legal requirements of the term "adversely affect," GDC 3, and 50.48 with respect to inspecting changes to the facility made by the licensee.**

## PROPOSED RESOLUTION:

- a. Provide inspectors with an easily accessible description and status of potentially generic fire protection issues (e.g., a web page with sections on Kaowool, Hemyc, etc.). To promote efficiency for follow on inspections, once issues are resolved, provide a method for the inspectors and the licensees to easily search and access this information. A new, NRC internal Fire Protection Web Page should be developed for use by the inspectors for emerging generic issues, while the existing public Fire Protection Web Page, can continue to be used by the licensees for released information.
- b. Provide inspectors with an interpretation of the term "adversely affect." Also, provide inspectors with training on "adversely affect," GDC 3, 50.48, and the approved process for changing the fire protection program. Include an appropriate inspection strategy for dealing with the added manual actions. This effort may involve development of new methods of risk analysis for added manual actions and should include concurrence by OGC.
- c. With regard to tracking issues, perhaps a set of technical contacts by subject matter could be established so that the regions know who specifically is the responsible person in NRR for various issues.

The FPFG recommends additional training material, technical issue paper, or articles written in the NRR inspection newsletter. The NRC Internal Lesson Learned Workshop concurred with this approach on March 7, 2001.

# **RADIATION SAFETY ISSUES**

# **Radiation Safety Breakout Session**

## **I. Introduction**

## **II. Session 1 - Update on Recent Changes**

**A. Public Radiation Safety Cornerstone**

**B. Occupational Radiation Safety Cornerstone**

## **III. Session 2 - ALARA Performance Assessment**

**A. Background and Review.**

- **Goals and Objectives.**
- **ROP Framework.**
- **Assumptions in current ALARA**

**assessment basis.**

**B. Facilitated Discussion.**

- **NRC identified issues and proposed resolutions.**
- **Industry identified issues and proposals.**
- **Stakeholder input.**

**C. Summary and Conclusions.**

# **PUBLIC RADIATION SAFETY CORNERSTONE DRAFT REVISED SDP GUIDANCE FOR RADIOACTIVE MATERIAL CONTROL PROGRAM**

## **DRAFT for Comment**

What would and would not be a finding in the Radioactive Material Control portion of the SDP?

A contaminated item (i.e., tool, equipment, clothes, etc., but not a person) that gets out of a radiation controlled area (RCA), as long as there is a final radiation survey point (portal monitor at the guard house) that the item has to go through prior to being "free to go anywhere", is still considered to be under the control of the licensee. This type of situation would typically not be a finding because the final radiation portal has an opportunity to detect the item and prevent its free release. The licensee should be given credit for the final radiation survey. However, if the item could get out of the protected area without a radiation survey (no portal monitor or carried out in a box on a truck) or the portal is not sensitive to the item, then the item is available to enter the unrestricted area and any member of the public can be exposed to it. This would be a finding and count as an occurrence.

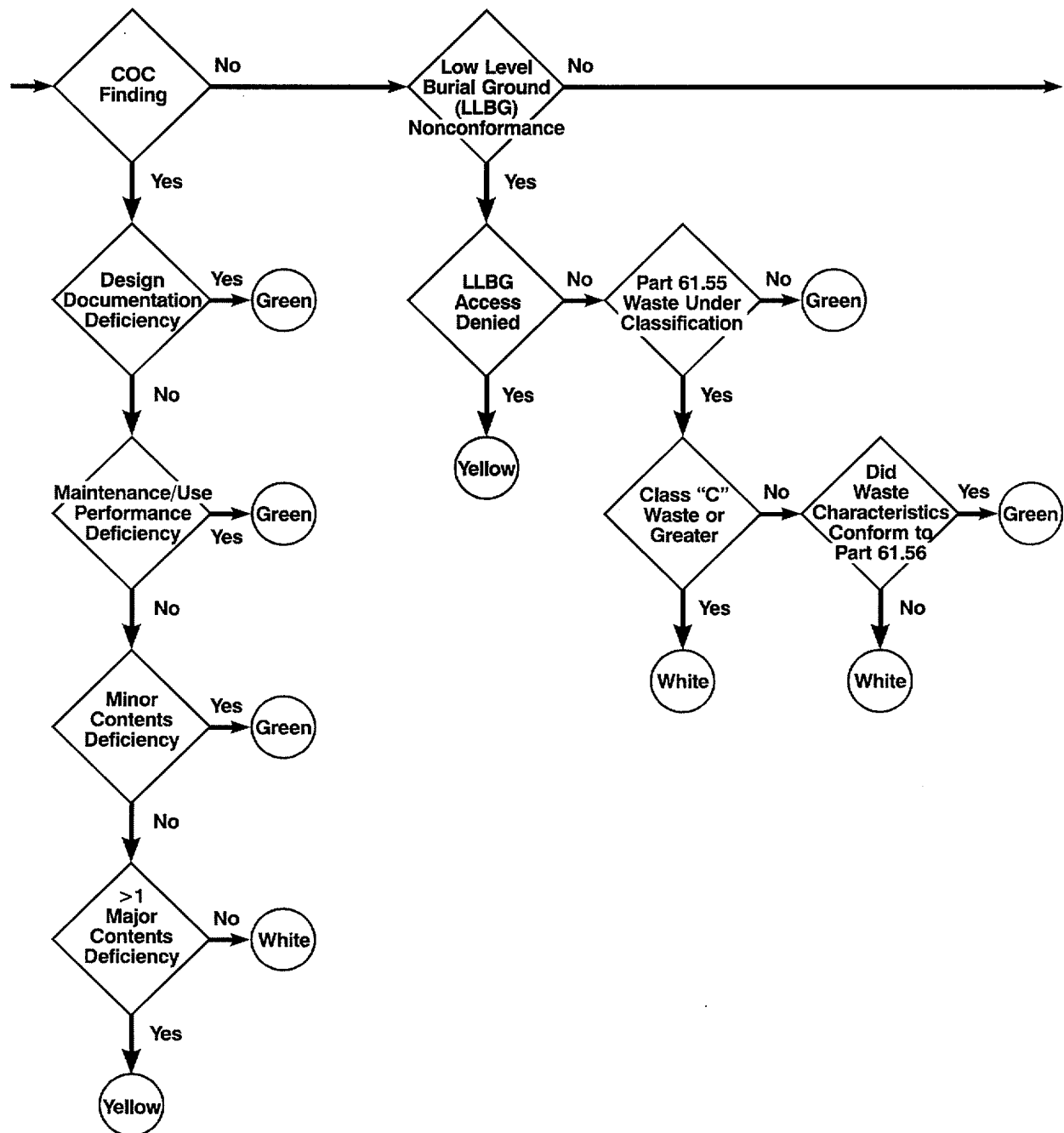
However, because a contaminated item got out of the RCA probably represents a non-compliance with a plant procedure, there can be two potential outcomes. For low levels of contamination, it can be a minor issue and resolved through the licensee's corrective action program. For high levels of contamination that may represent a potential risk to non-occupationally classified plant workers (i.e., member of the public), the issue should be assessed as more than minor and evaluated by the SDP.

In summary, if the licensee caught the contaminated item in their owner controlled area and there was a final radiation survey point that could detect it, and there was low risk to non-occupationally classified plant workers, then it should not be a finding. But, if there is no final radiation survey point or the radiation portal monitor was not sensitive to the contaminated item, or there was risk to non-occupationally classified plant workers, then it is a finding that should be run through the SDP, and counted as an occurrence.

To determine the number of occurrences, it is not simply the number of items that were found. The number of occurrences needs to be related to the "root cause" for the loss of control over the items. For example, a technician performing inadequate radiation surveys in which 20 contaminated items were released to the unrestricted area during one work shift; this should be counted as one occurrence with multiple examples. However, if there are a number of different root causes or one that was repetitive over time (i.e., different work shifts) that allowed multiple contaminated items to be released, then the number of occurrences should be based on the number of separate occurrences.

# Certificate of Compliance

# Low Level Burial Ground



DRAFT for Comment



**REACTOR OVERSIGHT PROCESS  
INITIAL IMPLEMENTATION PUBLIC WORKSHOP**

**RADIATION SAFETY ISSUES**

**ISSUE: NO. 1**

The Occupational Radiation Safety SDP misrepresents the Enforcement Policy concerning the enforcement discretion for skin (shallow dose) overexposures from exposure to hot particles.

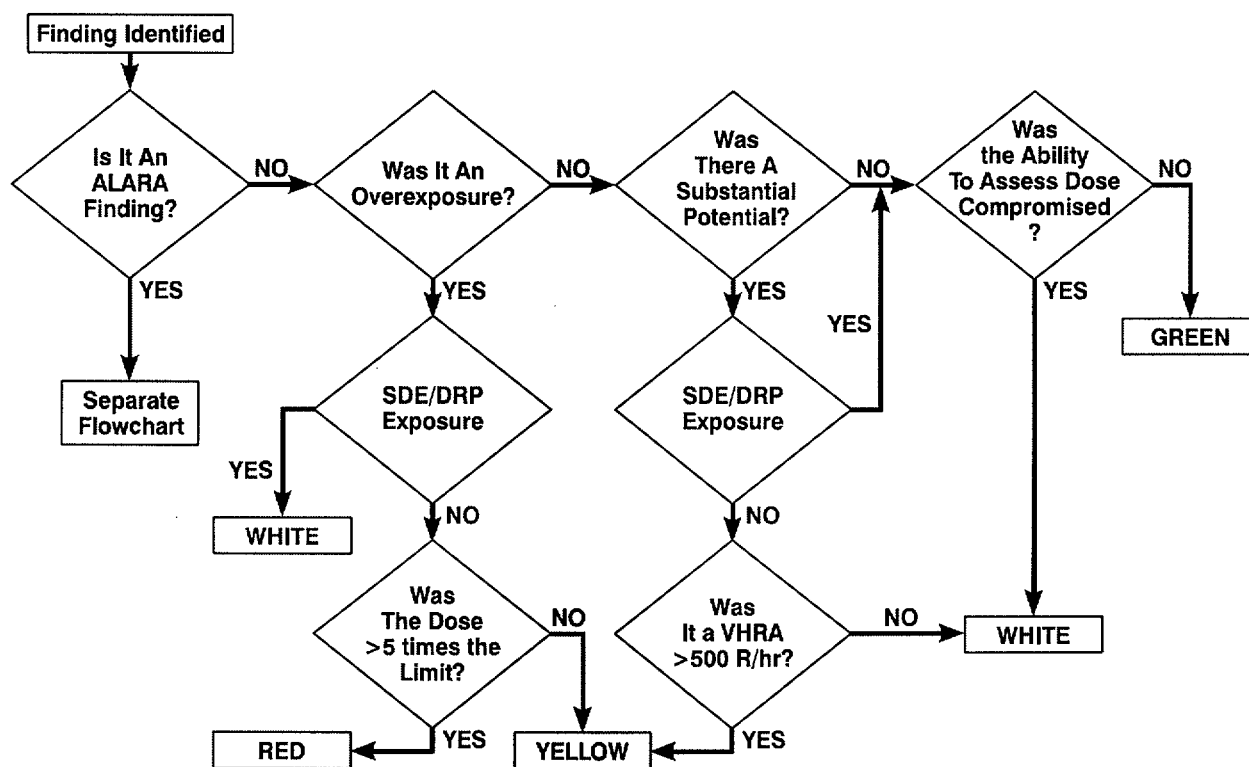
**BACKGROUND:**

The foot note in the SDP diagram, as well as the discussion text, in MC 0609 was included to account for the interim hot particle enforcement policy concerning skin dose (shallow dose equivalent) overexposures from hot particles. However, as written the SDP appears to exclude all hot particle exposures, including whole body (deep dose equivalent) as well as skin dose from hot particles not subject to the enforcement discretion.

**PROPOSED RESOLUTION:**

The footnotes in the SDP will be deleted and their logic will be incorporated into the SDP flow diagram. The SDP and the supporting documentation will be revised to clarify that the decision boxes only apply to shallow dose equivalent resulting from exposures to hot particles (or DPRs) that are subject to the Enforcement Discretion as defined in the Commission Policy in NUREG/BR-0195. See revised SDP handout.

# Occupational Radiation Safety SDP (Proposed Version)



**REACTOR OVERSIGHT PROCESS  
INITIAL IMPLEMENTATION PUBLIC WORKSHOP**

**RADIATION SAFETY ISSUES**

**ISSUE: NO. 2a**

The ALARA section of the SDP is too forgiving (i.e., cannot even get to a finding) for a plant with a three year rolling average collective dose that does not exceed the screening criteria.

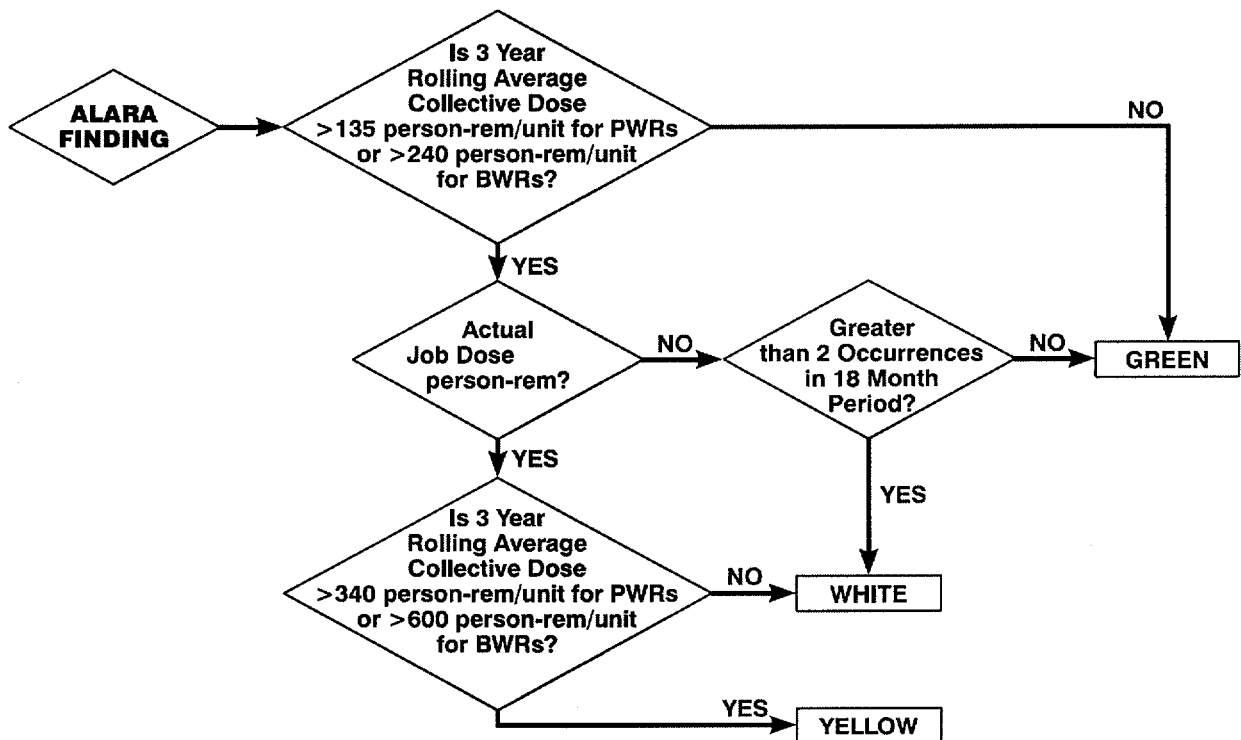
**BACKGROUND:**

The current Group two screening criteria in MC 0610\* screens out all issues identified at plants that have a rolling three year average collective dose equal to or below the screening criteria. The screening criteria was based on the median industry performance (at the time the SDP was drafted) and was intended intent to focus agency response on those plants with relatively poorer performance. Plants that do not exceed the criteria were viewed as having an overall effective program notwithstanding the individual inspection issue. The unintended consequence of this SDP structure is that the individual occurrence of ALARA failure at these better performers cannot be documented in the inspection report. This has also raised the question "If you can not have an inspection finding at a plant, why inspect at all?" In addition, some stake holders have voiced the comment that the screening criteria is an inappropriate, defacto, definition of ALARA for occupational doses at nuclear power plants.

**PROPOSED RESOLUTION:**

Delete the criteria that addressed the licensee's rolling three year average from the group 2 questions in MC 0610\* and move it into the SDP. An ALARA performance for a job that is >5 p-rem and 50% above dose projection (the other two current criteria - unchanged), will be a GREEN finding if the licensee's three year rolling average does not exceed the median based criteria. See proposed SDP handout.

# Occupational Radiation Safety SDP - ALARA Branch (Proposed Version)



## **REACTOR OVERSIGHT PROCESS INITIAL IMPLEMENTATION PUBLIC WORKSHOP**

### **RADIATION SAFETY ISSUES**

#### **ISSUE: NO. 2b**

The ALARA SDP is too severe for plants with rolling three year averages collective dose above the screening criteria.

#### **BACKGROUND:**

Since the SDP is based on a "per job" performance outcome, Licensee's with three year average collective doses above the screening criteria are at risk for multiple WHITE findings (ending up in a degraded cornerstone) from one bad outage. Is poor ALARA performance significant enough to warrant the actions required in the Action Matrix for a Degraded Cornerstone?

#### **PROPOSED RESOLUTION:**

No change. Judging ALARA performance on a "per job" basis is an adequate and coherent model. ALARA inspections to date have resulted in five Green finding, one White finding (with no NOV), and one Violation (NOV) associated with three White findings. This shows that not all performance issues, for plants with rolling three year average doses above the criteria, end up as a degraded cornerstone. It is the staff's position that the actions required for each of these outcomes are consistent with expected NRC actions for the level of licensee performance identified.

## **REACTOR OVERSIGHT PROCESS INITIAL IMPLEMENTATION PUBLIC WORKSHOP**

### **RADIATION SAFETY ISSUES**

#### **ISSUE: NO. 3a**

Since there is no standard definition of a "Job" as used in the ALARA SDP, the licensee can bias the inspection finding SDP outcome by cutting work into finer units.

#### **BACKGROUND:**

The SDP structure was designed to evaluate the licensee's performance in ALARA on a per job basis (e.g., as opposed to on a per outage basis, strictly on a rolling three year average collective dose, etc.) In context, the term "job" refers to the basic unit of work that the licensee has defined for the purpose of ALARA planning and work controls.

#### **PROPOSED RESOLUTION:**

There is no standard for defining what is a "job" or even guidance to licensees as to how they should divide outages and other maintenance activities into jobs. As used in the SDP, the term job refers to the basic unit of work activities the *licensee identifies for the purpose of ALARA planning and work controls*. We recognize that licensees also group jobs for other purposes such as work/outage scheduler controls or verifying OSHA compliance after scaffolding installation. However, these jobs are irrelevant to the issue of ALARA performance. The supporting documentation will be revised to clarify this.

A proposal was made to remove the incentive to "chop" work into smaller and smaller "jobs" by deleting the 5 person-rem screening criteria from MC 0610\*. At this time the staff feels that the issue of the licensee ability to bias the process in this way is self-limiting. If the licensee provides ALARA planning and controls at the level of smaller jobs, it should improve performance (a desirable outcome). If ALARA planning and controls are not provided at this level, the division of work will not meet the clarified definition of a "job" for ALARA performance assessment purposes. It is expected that licensees will balance the cost of planning at very low increments of work with the derived benefits.

## **REACTOR OVERSIGHT PROCESS INITIAL IMPLEMENTATION PUBLIC WORKSHOP**

### **RADIATION SAFETY ISSUES**

#### **ISSUE: NO. 3b**

Since the ALARA finding screening criteria compares actual collective dose experienced in completing a job to the estimated dose projected in the ALARA planning of the job, the licensee can bias the outcome by inflating the projected doses, or alternately, not providing dose projections at all.

#### **BACKGROUND:**

This potential has been recognized since the SDP was developed. The statements attributed to the licensee (e.g., "the whole thing could have been avoided by estimating [job doses] higher") in the recent ALARA enforcement action for Callaway has highlighted this issue. In addition, it has been pointed out that the licensee is not required to make an accurate dose estimate (projection) to comply with Part 20, some licensees may opt to not perform a dose projection for work activities.

#### **PROPOSED RESOLUTION:**

Revise inspection guidance to replace "dose estimate" with "dose projection" and clarify:

- That performance in this area is judged by comparing the actual dose outcome to the dose that is determined to be ALARA during work planning.
- That Licensee's dose projections (associated with adequate ALARA planning and controls) should be used for this comparison unless projections are missing, incomplete, or inadequate.
- 
- The distinction between job (or outage) dose goals and a realistic projection that is the result of good ALARA planning and controls.
- Under what circumstances the licensee should revise ALARA dose projections (both raising and lowering them).

Revise the Group 2 screening questions in MC 0610\* so that an inspection finding can be made if dose projections are missing, incomplete or inadequate for a job in question.

**CROSS-CUTTING ISSUES /**  
**PROBLEM IDENTIFICATION AND**  
**RESOLUTION**



# **REACTOR OVERSIGHT PROCESS INITIAL IMPLEMENTATION PUBLIC MEETING**

## **CROSS CUTTING ISSUES/PROBLEM IDENTIFICATION AND RESOLUTION**

### **ISSUE: NO. 1:**

Do the performance indicators and baseline inspection program provide sufficient information regarding performance in the cross cutting areas of human performance, safety conscious work environment, and problem identification and resolution (PI & R)?

### **BACKGROUND:**

For the purpose of this issue, "sufficient information" can be thought of as information of sufficient depth and scope and within a sufficient time frame to allow for appropriate levels of agency interaction.

During the development of the oversight process and during initial implementation, some individuals have expressed a concern that licensee performance in the cross cutting areas of human performance, safety conscious work environment, and PI & R could become degraded without being detected, and that this degradation of performance would be a safety concern.

### **PROPOSED RESOLUTION:**

Data obtained from the initial implementation of the revised oversight process (ROP) thus far tend to support one of the fundamental premises of the ROP; that degradation in the cross cutting areas will be detected by either PIs or inspections in a sufficiently pro-active time frame to allow for agency action to protect public health and safety. Examples of where this has been the case are at IP 2, Kewaunee, Millstone, and Cooper. At these facilities, problems have been identified that have been attributed to one of the three cross cutting areas (mainly PI & R) and the NRC has performed supplemental inspections due to PIs and/or baseline inspection findings crossing thresholds. In addition, during initial implementation, there have been no significant precursors to a reactor accident that were caused by cross cutting issues.<sup>1</sup> As such, no specific changes to the ROP are being pursued in this area at this time; however, we will continue to assess events and inspection findings to ensure that cross cutting issues are being identified and acted upon as appropriate. During the next year of implementation of the ROP the following activities are being pursued or considered to test this premise further:

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<sup>1</sup>There have no events classified as significant precursors to a reactor accident during 2000 and 2001. A significant precursor is defined as an event that has a 1/1000 or greater probability of leading to a reactor accident.

- ASP events<sup>2</sup> and inspection findings classified as yellow or red will be reviewed to determine if weaknesses in one of the three cross cutting areas contributed to the event or finding and whether these weaknesses had been previously identified by either PIs or inspections in a sufficiently pro-active time-frame to allow for NRC engagement.
- During periodic reviews of issued inspection reports we will evaluate whether cross cutting issues are being sufficiently captured when identified during inspection activities..
- Using the performance metrics developed for assessing the ROP, we will review the circumstances surrounding plants that jump two or more columns in the action matrix to see if these performance weaknesses were due to cross cutting issues, and if so, whether inspections or PIs has identified similar concerns.

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<sup>2</sup> ASP events are events with a conditional core damage probability of equal to or greater than  $1.0 \times 10^{-6}$ .

## **REACTOR OVERSIGHT PROCESS INITIAL IMPLEMENTATION PUBLIC MEETING**

### **CROSS CUTTING ISSUES/PROBLEM IDENTIFICATION AND RESOLUTION**

#### **ISSUE NO. 2:**

Are there other cross cutting issues that warrant additional consideration in the revised oversight process?

#### **BACKGROUND:**

During development of the revised oversight process (ROP) and during initial implementation, some individuals have expressed that there may be additional cross cutting issues other than the three identified (safety conscious work environment, human performance, and problem identification and resolution), and that these cross cutting areas are not being adequately addressed in the ROP.

#### **PROPOSED RESOLUTION:**

During initial implementation of the ROP, we have not identified any cross cutting issues that would warrant special treatment. There has been a tacit recognition that there are programs, such as the maintenance effectiveness and erosion/corrosion programs, that are essentially elements of a licensee's problem identification and resolution process and thus have cross cutting aspects to them, but not necessarily to the degree they should be called out as an individual cross cutting area. Numerous changes have been made to the performance indicators (PIs), baseline inspection program, and significance determination processes (SDPs) to better direct our resources to those areas of most safety significance including areas were not adequately addressed in the past. Currently, additional modifications to the ROP to address cross cutting issues are not currently being pursued; however, we will continue to assess events and inspection findings to look for safety significant areas not adequately covered by the current baseline inspections, PIs, or SDPs. (See proposed resolution to Issue 1 for specific recommended actions).

## **REACTOR OVERSIGHT PROCESS INITIAL IMPLEMENTATION PUBLIC MEETING**

### **CROSS CUTTING ISSUES/PROBLEM IDENTIFICATION AND RESOLUTION**

#### **ISSUE NO.3:**

Does the revised reactor oversight process (e.g., inspection program, significance determination processes (SDPs), action matrix) provide for proper treatment of cross cutting issues when they are identified? Should the approach be the same for all cross cutting issues or should the approach vary?

#### **BACKGROUND:**

Currently, the revised oversight process (ROP) addresses cross cutting issues by highlighting them in inspection reports when they are notable contributors to inspection findings or if there is an appreciable trend or pattern that has emerged; and in assessment letters to the licensee when they constitute a substantive issue. Recent changes made to Inspection Manual Chapter 0610\* better explain when and how cross cutting issues should be documented in inspection reports. The ROP does not allow for additional NRC engagement on cross cutting issues unless they are contributing causes to PIs or inspection findings that are characterized as white or greater. The NRC commissioners have also directed the staff to specifically inform them if the NRC decides to engage licensees outside of the action matrix because of cross cutting issues. To date, we have not engaged licensees on cross cutting issues outside of the guidance contained in the Action Matrix, as the plants for which significant cross cutting issues have been identified have received supplemental inspection due to performance issues.

#### **PROPOSED RESOLUTION:**

While we will continue to assess the need for modifications to the ROP, including modifications to account for cross cutting issues, no such changes are being pursued at this time. Over the next year of the ROP implementation, the following information will be gathered and analyzed to assess the effectiveness of this guidance:

- ASP events<sup>3</sup> and inspection findings classified as yellow or red will be reviewed to determine if weaknesses in one of the three cross cutting areas contributed to the event or finding and whether these weaknesses had been previously identified by either PIs or inspections. If the weaknesses were previously known, we will evaluate whether the ROP allowed for NRC engagement in a sufficiently pro-active time-frame to protect public health and safety.

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<sup>3</sup> ASP events are events with a conditional core damage probability of equal to or greater than  $1.0 \times 10^{-6}$ .

- During our yearly assessment of the ROP we will evaluate whether the ROP allowed for sufficient NRC engagement at facilities that reached the degraded cornerstone column of the action matrix.

## **REACTOR OVERSIGHT PROCESS INITIAL IMPLEMENTATION PUBLIC MEETING**

### **CROSS CUTTING ISSUES/PROBLEM IDENTIFICATION AND RESOLUTION**

#### **ISSUE NO. 4:**

Should we change the frequency of the annual problem identification and resolution (PI & R) inspection?

#### **BACKGROUND:**

Some individuals have recommended decreasing the frequency of the annual PI & R inspection. The initial results from the first round of inspections would generally support a reduction in frequency. While several inspections conducted during initial implementation of the revised oversight process identified concerns with aspects of licensee's PI & R programs and there have been a number of green findings, none of these concerns were determined to have more than very few risk significance. However, better insights may be garnered through smaller, more frequent inspections of selected issues. Currently, the baseline inspection program includes approximately 400 hours per year allocated to PI & R reviews through both an annual team and reactive inspections. In addition, licensee's have increased their emphasis on ensuring viable PI & R programs, including increased audits and emphasis on PI & R by the Institute of Nuclear Power Operations. In addition, even with a reduction in frequency in the annual team inspection, PI & R issues would still be assessed periodically throughout the period as part of the baseline inspection procedure attachments. Some of the inspection hours saved could be potentially be used to augment those inspections performed as part of the baseline inspection procedure attachments.

#### **PROPOSED RESOLUTION:**

Consideration should be given to changing the frequency of the annual PI & R inspection to once every two years for those facilities that have stayed within the licensee response band for the previous four quarters of operation or for those facilities that have had no more than one white PI or inspection finding. All other facilities would get an annual inspection. In addition, additional emphasis would be provided in Inspection Procedure 71152 to perform some assessment of PI & R activities on a more expedient bases. These periodic assessments of PI & R activities would be documented in routine inspection reports and then integrated into a complete PI & R assessment during the team inspection.

# **PHYSICAL PROTECTION ISSUES**

**REACTOR OVERSIGHT PROCESS  
INITIAL IMPLEMENTATION PUBLIC WORKSHOP**

**PHYSICAL PROTECTION ISSUES**

**ISSUE NO. 1:**

The IMC 0610\*, Appendix B (Thresholds for Documentation), Group 2 question for Physical Protection was unclear.

**BACKGROUND:**

The past Physical Protection Group 2 question was "Does the issue involve a nonconformance with safeguards requirements?" The term nonconformance, as defined in NRC guidance, is unclear with an unnecessary nexus to regulatory compliance. This rendered the Physical Protection Group 2 question either unusable or open to various other interpretations.

**PROPOSED RESOLUTION:**

Describe the new Physical Protection Group 2 questions.

- (1) Does the issue involve a failure to meet the requirements of 10 CFR 73.55 (b)-(h), or associated plans, procedures or rules?
- (2) Does the issue impact any key attribute of the Physical Protection Cornerstone to meet its intended function whether in performance, design or implementation?



**REACTOR OVERSIGHT PROCESS  
INITIAL IMPLEMENTATION PUBLIC WORKSHOP  
PHYSICAL PROTECTION ISSUES**

**ISSUE NO. 2:**

The safeguards baseline inspection procedures need to be modified in order to consolidate and clarify baseline requirements, particularly as they relate to force-on-force exercises (OSRE).

**BACKGROUND:**

During the initial year, the inspection of force-on-force exercises were essentially removed from the baseline Inspection Procedure (IP 71130.03). Direction was given that the force-on-force exercises would continue and be completed using the OSRE IP 81110. Additionally, detailed management guidance was published regarding the conduct of force-on-force (OSRE) inspections that had not been incorporated into the baseline program. Several other comments were received about the other safeguards inspection procedures that had not been addressed in updated procedures.

**PROPOSED RESOLUTION:**

Based on inspector comments received, we intend to make necessary modifications to IP 71130.01, 02, and 04; remove references to force-on-force exercises from the current IP 71130.03 and modify it based on comments received from inspectors; create a new baseline inspection procedure, IP 71130.05 that consolidates pre-existing written guidance (IP 71130.03, IP 81110 and the "CONDUCT, AGENDA, AND RULES OF ENGAGEMENT FOR OPERATIONAL SAFEGUARDS RESPONSE EVALUATIONS" ) memorandum published by NRR on November 17, 2000 relating to force-on-force exercises.

Introduce the draft revisions to IP 71130.01, 02, 03 and 04 for information and explanation. In addition, introduce the new IP 71130.05 for information, explanation and comment. NOTE: A briefing of the plans for developing a SPA pilot inspection procedure will be mentioned to acknowledge a portion of the Physical Protection Cornerstone evaluation process that is being worked in parallel to this effort.

**REACTOR OVERSIGHT PROCESS  
INITIAL IMPLEMENTATION PUBLIC WORKSHOP  
PHYSICAL PROTECTION ISSUES**

**ISSUE NO. 3**

Revise the current PPSDP (IMC 0609, Appendix E) to incorporate Commission direction contained in COMSECY-00-0036 - SAFEGUARDS PERFORMANCE ASSESSMENT ISSUES ASSOCIATED WITH THE REVISED OVERSIGHT PROCESS, and provide additional objectivity, understandability and predictability to the process.

**BACKGROUND:**

The use of the reactor safety SDP to evaluate the results of force-on-force security exercises was demonstrated to be unusable in several cases identified during the initial implementation year. The SDP results were inconsistent with the actual risk significance. It was determined that the PPSDP should focus on the evaluation of risk-relevant issues outlined in the Safeguards Cornerstone rather than the PRA-based reactor safety SDP.

**PROPOSED RESOLUTION:**

Describe the past PPSDP and the current revision to IMC 0609, Appendix E, (interim PPSDP) for information and explanation. Describe the draft final PPSDP for information, explanation and comment.

**REACTOR OVERSIGHT PROCESS  
INITIAL IMPLEMENTATION PUBLIC WORKSHOP  
PHYSICAL PROTECTION ISSUES**

**ISSUE NO. 4**

Assess the physical protection performance indicators to see whether they clearly accomplish their stated purpose ... "to provide baseline and trend information needed to evaluate each licensee's physical protection and access authorization systems. The regulatory purpose is to provide high assurance that these systems will function to protect against the design basis threat."

**BACKGROUND:**

The adequacy and effectiveness of the physical security performance indicators were identified as an issue of mutual interest during the External Workshop Meeting held on January 10-13, 2000. The potential problems were clearly articulated in the workshop findings (numbers 1g, 1e and 1i). The long term actions of "evaluating alternate PIs" have not been completely addressed.

**PROPOSED RESOLUTION:**

Complete the mandate that was established a year ago during the January 2000 external stakeholders meeting. Specifically, for the (1) Personnel Screening Performance indicator and the Fitness-for Duty/Personnel Reliability Program Performance indicator we should (a) consider updating the guidance to ensure that licensee measurements are consistent with what was intended, (b) potentially better align the thresholds with the intended purpose of the indicator, and (c) undertake a parallel effort to collect data and evaluate alternate PIs.

Additionally, for the (1) Protected Area Security Performance Index we will (a) discuss the new calculation method for the Index; and (b) discuss calculation methods at sites that do not use CCTV for primary assessment.

Bring forward the issues identified at the External Stakeholders Meeting that occurred in January 2000 for discussion and brainstorming. Discuss potential courses of action, suggestions for PI improvements.

# **MAINTENANCE EFFECTIVENESS ISSUE**

**REACTOR OVERSIGHT PROCESS  
INITIAL IMPLEMENTATION PUBLIC WORKSHOP  
MAINTENANCE EFFECTIVENESS**

**ISSUE:**

The significance of certain maintenance rule performance issues cannot be assessed with the existing significance determination process (SDP).

**BACKGROUND:**

The existing Reactor Safety SDP does not clearly address issues related to risk assessment and risk management associated with performance of maintenance activities. Phase 2 site-specific inspection notebooks lack the necessary level of detail and completeness to assess maintenance configurations with multiple equipment out-of-service.

**PROPOSED RESOLUTION:**

Enhance current SDP or develop an additional SDP (attachment to MC 0609) to better determine the significance of (a)(4) issues, such as:

- Failure to perform an adequate risk assessment
- Failure to manage risk

**SIGNIFICANCE DETERMINATION PROCESS  
FOR MAINTENANCE RULE (a)(4)**

## **BACKGROUND**

- **ISSUE IS FOCUSED ON THE ADEQUACY OF EXISTING SIGNIFICANCE DETERMINATION PROCESS (SDP) TO ASSESS THE SIGNIFICANCE OF MAINTENANCE RULE (MR) INSPECTION FINDINGS.**
  - **EXISTING SDP IS ADEQUATE FOR ASSESSING MR (a)(1), (a)(2), AND (a)(3) FINDINGS.**
    - ✱ **CLARIFYING GUIDANCE TO BE ADDED TO MC 0610\***
  - **A NEW SDP IS NEEDED FOR MR (a)(4) FINDINGS.**

## **WHY NEW SDP IS NEEDED**

- **EXISTING SDP PHASE 1 WORKSHEET MAY INAPPROPRIATELY SCREEN RISK-SIGNIFICANT PLANT MAINTENANCE CONFIGURATIONS TO “GREEN.”**
- **PHASE 2 SITE-SPECIFIC INSPECTION NOTEBOOKS LACK THE NECESSARY LEVEL OF DETAIL AND COMPLETENESS TO ASSESS MAINTENANCE CONFIGURATIONS WITH MULTIPLE EQUIPMENT OUT-OF-SERVICE.**
- **LICENSEES ARE ALREADY USING PHASE 3 TYPE ANALYSES (AND TOOLS) TO ASSESS THE AT-POWER RISKS OF MAINTENANCE CONFIGURATIONS.**



## **PROPOSED MR(a)(4) SDP**

- **DETERMINE SIGNIFICANCE OF MR (a)(4) PERFORMANCE ISSUES**
  - **FAILURE TO PERFORM AN ADEQUATE RISK ASSESSMENT**
  - **FAILURE TO MANAGE RISK**
- **METRICS FOR RISK SIGNIFICANCE OF MAINTENANCE CONFIGURATIONS**
  - **CONFIGURATION-SPECIFIC CORE DAMAGE FREQUENCY (CDF)**
  - **INCREMENTAL CORE DAMAGE PROBABILITY (ICDP)**
  - **INCREMENTAL LARGE EARLY RELEASE PROBABILITY (ILERP)**

## **SDP MATRIX FOR AT-POWER CONFIGURATIONS**

<b>ICDP</b>	<b>&lt; 1E-6</b>	<b>1E-6 ~ 1E-5</b>	<b>1E-5 ~ 1E-4</b>	<b>&gt;1E-4</b>
<b>ILERP</b>	<b>&lt; 1E-7</b>	<b>1E-7 ~ 1E-6</b>	<b>1E-6 ~ 1E-5</b>	<b>&gt;1E-5</b>
<b>FAILURE TO PERFORM AN ADEQUATE RISK ASSESSMENT</b>	<b>GREEN</b>	<b>WHITE</b>	<b>YELLOW</b>	<b>RED</b>
<b>FAILURE TO MANAGE RISK</b>	<b>GREEN?</b>	<b>WHITE?</b>	<b>YELLOW?</b>	<b>RED?</b>

- **CREDIT FOR RISK MANAGEMENT ACTIONS**
  - **INCREASED RISK AWARENESS AND CONTROL**
  - **REDUCE DURATION OF MAINTENANCE ACTIVITY**
  - **MINIMIZE MAGNITUDE OF RISK**
  - **ESTABLISH OTHER COMPENSATORY MEASURES**

## **SDP MATRIX FOR SHUTDOWN CONFIGURATIONS**

<b>KEY SAFETY FUNCTIONS (KSF)</b>	<b>ALL PRESENT</b>	<b>ABSENCE OF 1 KSF</b>	<b>ABSENCE OF 2 KSF</b>	<b>ABSENCE OF MORE THAN 2 KSF</b>
<b>FAILURE TO PERFORM AN ADEQUATE RISK ASSESSMENT</b>	<b>GREEN</b>	<b>WHITE</b>	<b>YELLOW</b>	<b>RED</b>
<b>FAILURE TO MANAGE RISK</b>	<b>GREEN?</b>	<b>WHITE?</b>	<b>YELLOW?</b>	<b>RED?</b>

**ASSESSMENT  
AND  
ENFORCEMENT ISSUES**

**REACTOR OVERSIGHT PROCESS  
INITIAL IMPLEMENTATION PUBLIC WORKSHOP  
ASSESSMENT AND ENFORCEMENT ISSUES**

**ISSUE NO. 3:**

The role of no color findings in the oversight process is not clear and has contributed to program inconsistencies.

**BACKGROUND:**

No color findings are associated with specific extenuating circumstances as discussed in IMC 0610\*. These findings were intended to be associated with enforcement issues that involve actions that are willful or which impede the regulatory process, substantive cross-cutting issues, issues of an agency-wide concern, or closing out an open item in a LER. Early guidance was non-specific which resulted in the significance of these findings being confusing to stakeholders and their role in the assessment program was unclear. The assessment program was not designed to include no color findings and their existence may undermine public confidence in the ROP.

No color findings are intended to be significant findings of a regulatory nature (i.e. do not impact a cornerstone) that can not be evaluated by the current SDP. These findings should only include violations of regulatory requirements as described above or notable adverse performance trends or patterns associated with cross-cutting issues. These findings are expected to be small in number.

**PROPOSED RESOLUTION:**

The staff's proposal is to modify IMC 0610\* to eliminate no color findings from the reactor oversight program.

**REACTOR OVERSIGHT PROCESS  
INITIAL IMPLEMENTATION PUBLIC WORKSHOP  
ASSESSMENT AND ENFORCEMENT ISSUES**

**ISSUE NO. 4:**

There is some confusion regarding the purpose of a regulatory conference and a regulatory performance meeting.

**BACKGROUND:**

The purpose of a regulatory conference is to gain a complete understanding of the significance of an inspection finding as well as information pertinent to understanding any apparent violations. In some cases, this requires a technical discussion of the probabilistic inputs and assumptions used to characterize the risk significance of the issue. The role of NRC and licensee management has changed from their role during enforcement conferences held in the past. The regulatory conference is not intended to be a forum for a discussion of the adequacy and effectiveness of licensee corrective actions. However, a significant amount of attention has been devoted to the discussion of licensee corrective actions during regulatory conferences. These discussions should be deferred to the Regulatory Performance Meetings. There is also an efficiency issue in having a detailed discussion of corrective actions at this meeting in conjunction with a discussion of the significance of an inspection finding and any apparent violations.

**PROPOSED RESOLUTION:**

The name of the regulatory conference should be changed and the guidance in IMC 0609 attachment 1 revised to more accurately characterize the purpose of the meeting and to clearly differentiate it from the Regulatory Performance Meeting. The proposed description in IMC 0305 is listed below:

**Significance and Enforcement Review Conference (SERC)-** Licensees are normally offered an opportunity for a SERC to discuss potentially safety significant inspection findings, whether or not violations are involved. A secondary purpose of the meeting is to provide an opportunity to address any apparent violations that may be associated with the finding. This meeting enables the agency to obtain the licensee's perspective in order to come to a common understanding of the facts and the significance of the findings. The SERC is not a meeting to negotiate sanctions or discuss the adequacy of any current or proposed licensee corrective actions. If a licensee is in agreement with the issues then they may opt not to have a SERC.

**Regulatory Performance Meetings** - Regulatory Performance Meetings are held between licensees and the agency to discuss the effectiveness of a licensee's root cause evaluation and corrective actions associated with safety significant inspection findings after the completion of the associated supplemental inspection. Each safety significant assessment input shall be discussed in one of the following forums listed below in order to arrive at a shared understanding of the performance issues, underlying causes, and planned licensee actions. These discussions may take place at supplemental inspection exit meetings between the agency and the licensee, conference calls, or public meetings. This meeting should be documented in an inspection report or a public meeting summary as appropriate. NRC management, as specified in the Action Matrix, conducts the Regulatory Performance Meeting.

**REACTOR OVERSIGHT PROCESS  
INITIAL IMPLEMENTATION PUBLIC WORKSHOP  
ASSESSMENT AND ENFORCEMENT ISSUES**

**ISSUE NO. 5:**

What are the appropriate actions for a plant that has a safety-significant PI that re-enters the green band even though the licensee's response, relative to its root cause evaluation of the issue, is inadequate?

**BACKGROUND:**

IMC 0305 states that an inspection finding is normally carried forward in the assessment process for a total of four calendar quarters. There is a provision that an inspection finding will not be removed from consideration of future agency actions (via the Action Matrix) until the identified weaknesses in the root cause evaluation have been corrected by the licensee. There is no such provision for safety-significant performance indicators. However, it is appropriate that the original performance deficiency (whether it is an inspection finding or a PI) will not be removed from consideration of future agency actions (i.e. the Action Matrix) until the licensee has corrected the issue.

This situation occurred last year at Kewaunee Nuclear Station last year. The licensee's evaluation of a yellow Alert and Notification System PI was determined to be inadequate after two supplemental inspections were conducted on this issue. In this case, the regional staff issued a parallel yellow inspection finding that corresponded to the original performance deficiency from the yellow PI.

**PROPOSED RESOLUTION:**

A parallel inspection finding may be issued when the corresponding supplemental inspection procedure for a risk significant performance indicator reveals substantive inadequacies in the evaluation of the root cause of the original performance deficiency, the extent of performance problems, or the associated corrective actions. The agency has several implementation issues in applying this approach such as:

- How much of an opportunity (if any at all) should be provided to the licensee to correct the deficiencies in the evaluation prior to the issuance of the parallel inspection finding.
- What criteria should the agency consider in evaluating whether a parallel inspection finding should be issued.



- How to provide licensees the opportunity to provide their perspective on the identified weaknesses prior to issuance of the proposed parallel finding.
- Whether the finding is a placeholder for the original performance deficiency or a separate finding directed against the Corrective Action Program that would require a separate evaluation and corresponding supplemental inspection. This question would apply whether the original performance deficiency was an inspection finding or a performance indicator.
- The appropriate time and method to remove the inspection finding from consideration in the assessment program.

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ASSESSMENT AND ENFORCEMENT ISSUES**

**ISSUE NO. 6:**

How should historical issues that have safety significance but are not reflective of current performance (e.g., Oconnee design issue) be addressed in the oversight process.

**BACKGROUND:**

The assessment program determines appropriate agency actions based upon the most current licensee performance. The most current licensee performance is determined on a quarterly basis by reviewing the current PI and inspection results. The date used for consideration in the assessment program is the date of the end of the pertinent inspection period for the finding. Historical issues, such as those that are captured during design inspections, are not necessarily reflective of current licensee performance. In particular, those issues already identified by and appropriately addressed by the licensee would be reflective of good licensee performance.

**PROPOSED RESOLUTION:**

There are three fundamental questions when considering historical issues in the reactor oversight process:

- Whether the ROP should be reflective of current **plant** conditions or current **licensee** performance.
- What types of issues would not be considered reflective of current **plant** conditions or licensee performance.
- Can the approach for treating historical issues be structured such that it does not create disincentives for licensees aggressively seeking to identify and resolve issues.

# **COMMUNICATION ISSUES**

**REACTOR OVERSIGHT PROCESS  
INITIAL IMPLEMENTATION PUBLIC WORKSHOP**

**COMMUNICATION ISSUES**

**ISSUE: NO. 1**

NRC Manual Chapter 2515-11 "General Inspection Policies" endorses action by lead inspectors to provide licensees with well-considered insights beyond those to be documented in the inspection report. What are the NRC's expectations regarding inspectors providing insights to licensees.

**BACKGROUND:**

Because of the recent guidance on limiting inspection report documentation to significant findings, and specifically eliminating minor findings and inspector observations, inspectors desire guidance on what "insights" may be discussed with the licensee that are below the significance threshold and not documented in the inspection report.

**PROPOSED RESOLUTION:**

The attached "Guidance on Providing Inspector Insights" is proposed to be incorporated into Manual Chapter 2515-11.01 "Management Entrance and Exit Meetings", and into the NRC Fundamental of Inspection training course.

## "GUIDANCE ON PROVIDING INSPECTOR INSIGHTS"

NRC Manual Chapter 2515-11 "General Inspection Policies" endorses action by lead inspectors to provide licensees with well-considered insights beyond those to be documented in the inspection report, if so desired by the licensee. It may be appropriate during inspection periods to meet periodically with the licensee to provide an interim status of both inspection findings to date and inspector insights if desired.

1. The inspector should provide the insights intended to be presented at the exit interview or other meeting with the licensee to the site Senior Resident Inspector and NRC management generally prior to presenting them to the licensee. The inspector should make it clear that this is an additional discussion, his insights will not appear in the inspection report, and no specific licensee action is expected.
2. The inspector should always present formal inspection report findings first and should provide a brief description of minor violations identified and clarify that the minor violations would not be in the report but the licensee is required to take corrective actions for them. ***Insights regarding multiple or recurring minor violations should also be shared with the licensee when appropriate.*** Inspectors should then determine whether the licensee desires a further discussion of the inspectors observations or insights. If the licensee does not desire the inspectors insights, only the formal inspection report findings should be presented. However, it may nonetheless still be appropriate to provide some insights at the exit, after first consulting with your supervisor.
3. Comments should be objective and include factual examples. Inspectors should not make broad sweeping generalizations, discuss assessments of licensee management effectiveness, should not express an expectation beyond meeting NRC requirements, should not solicit licensee action regarding observations other than the formal inspection findings, or present recommended solutions to correct deficiencies.
4. The insights must relate to areas of NRC jurisdiction for example: the Reactor Oversight Process, operator work-arounds, and areas below the risk threshold.
5. Relaxation of this guidance for special circumstance or insights outside the above ground rules may need to be provided to licensees. In these cases, consult NRC management.