



Potential Enhancements to the Public Radiation Safety Cornerstone of the ROP

Public Meeting
May 30, 2012

Meeting Purpose/Objectives

- Discuss background related to potential enhancements to the Public Radiation Safety (PRS) cornerstone of the Reactor Oversight Process (ROP)
- Discuss ROP framework and PRS cornerstone objectives, performance indicators (PIs), and inspection procedures
- Discuss strategies and path forward to address the Commission staff requirements memoranda (SRM) related to this subject

ROP Gap Analysis, April 8, 2011

- Performed to reveal potential areas of the ROP that may warrant additional oversight through inspection or PIs
- Staff noted a growing concern about leaks and spills that contaminated groundwater at or around a number of reactor facilities
- Although the leaks/spills did not pose a health hazard, they had impacted public confidence
- Recommendation: enhance PRS cornerstone to address licensee performance in monitoring and controlling releases to groundwater

SECY-11-0076, June 9, 2011

- Recent activities related to groundwater contamination:
 - Two Action Matrix deviations
 - Groundwater Task Force conclusions
 - Industry initiatives in groundwater monitoring – NEI 07-07
 - Internal feedback
 - 10 CFR 2.206 petitions
- Recommended the Commission endorse staff efforts to enhance ROP tools within the PRS cornerstone to emphasize defense in depth through prevention, detection, and mitigation of groundwater contamination
- Potential enhancements could include development of or changes to inspection program tools or PIs

Commission SRM, November 8, 2011

- Commission approved staff's commitment to work with stakeholders on potential enhancements to the ROP
- Commission did not approve changes to the radiological effluent performance indicator or other modifications to the ROP related to groundwater contamination control
- Any proposed revisions to the NRC's regulatory program in this area should be provided to the Commission in a notation vote paper

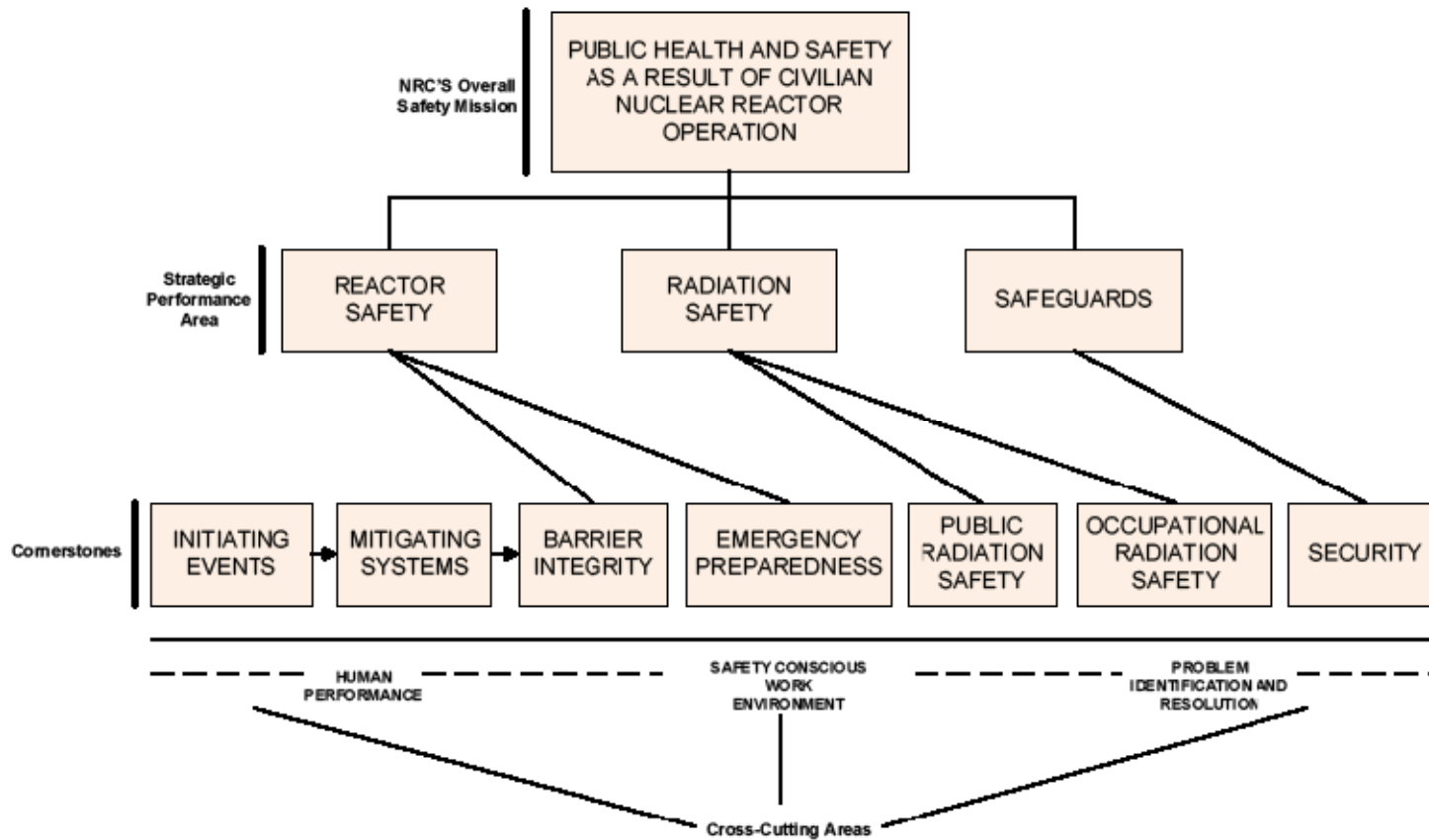
Related Efforts and Reports

- Groundwater Task Force Final Report – June 2010
- SECY-11-0019, “Senior Management Review of Overall Regulatory Approach to Groundwater Protection,” February 2011
- SECY-11-0054 “Reactor Oversight Process Self-Assessment for Calendar Year 2010,” April 2011
- Discussion topic during ROP breakout session at the Regulatory Information Conference – March 2012
- SECY-12-0046, “Options for Revising the Regulatory Approach to Groundwater Protection,” March 2012
- SECY-12-0055, “Reactor Oversight Process Self-Assessment for Calendar Year 2011,” April 2012

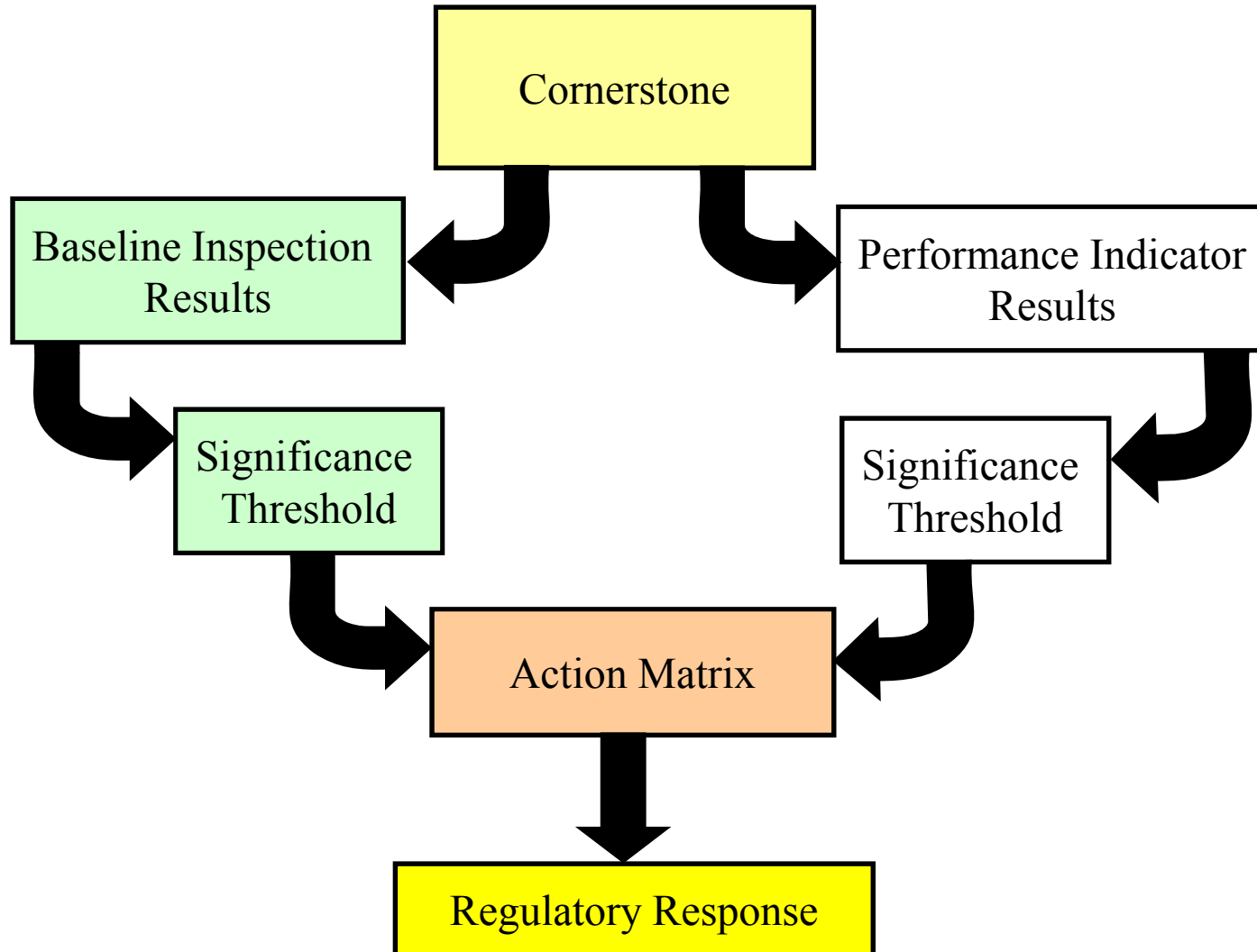
Background: Objectives of the ROP

- Improve the Objectivity of the Oversight Processes - Subjective Decision-making is Minimized
- Improve the Scrutability of NRC Actions – Regulatory Response and NRC Actions Have a Clear Tie to Licensee Performance
- Risk-inform the Processes - NRC and Licensee Resources are Focused on Performance Deficiencies With the Greatest Impact on Safe Plant Operation

REGULATORY FRAMEWORK



REACTOR OVERSIGHT PROCESS



PRS Cornerstone Objective

- To ensure adequate protection of public health and safety from exposure to radioactive material released into the public domain as a result of routine civilian nuclear reactor operations.
 - These releases include routine gaseous and liquid radioactive effluent discharges, the inadvertent release of solid contaminated materials, and the offsite transport of radioactive materials and wastes.
 - Licensees can maintain public protection by meeting the applicable regulatory limits and ALARA guidelines.

PRS Performance Indicator

- Number of effluent occurrences that exceed quarterly Offsite Dose Calculation Manual (ODCM) dose objectives
- ODCM dose objectives
 - Are from 10 CFR 50 Appendix I
 - Are a small fraction of the dose limits for the public
 - Are used to demonstrate ALARA
- Includes all liquid and gas effluents causing public dose
 - Groundwater contamination (e.g., leaks and spills)
 - Other unplanned or uncontrolled discharges
 - Doses from leaks and spills are typically so low that they don't challenge the PRS Performance Indicator
- Excludes leaks and spills that don't cause public dose

PRS Inspection Program

- Inspection Procedure (IP) 71124: Radiation Safety—
Public and Occupational (PRS used to be IP 71122)
 - IP 71124.06: Radioactive Gaseous and Liquid Effluent Treatment
 - IP 71124.07: Radiological Environmental Monitoring Program
 - IP 71124.08: Radioactive Solid Waste Processing and
Radioactive Material Handling, Storage, and Transportation
- IP 71124.06 specifically calls out review of licensee
compliance with its commitment to the groundwater
initiative (NEI 07-07)
- Significance Determination Process (SDP) for PRS
cornerstone findings described in IMC 0609, App. D - -
radioactive effluent release branch of SDP covers leaks
and spills that cause public dose

Discussion/Conclusions/Next Steps

- Are any additional enhancements needed to the PRS cornerstone to address perceived gaps? PI program? Inspection program? SDP? Anywhere else?
- Is any additional research or further considerations warranted to effectively evaluate this issue? If so, what?
- What are our preliminary conclusions based on today's discussions?
- What key points should be considered in further developing our conclusions and formulating recommendations?
- Do we need additional meetings to further discuss and solidify conclusions and recommendations? If so, when?