



Safety Culture in the U.S. Nuclear Regulatory Commission's Reactor Oversight Process

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Topics

- Purpose of the Reactor Oversight Process (ROP)
- ROP Framework
- Safety Culture within the ROP
- Safety Culture Assessments

Reactor Oversight Process

- The ROP is the NRC's program to inspect operating nuclear reactors, to assess overall performance, and to respond to declining performance
- NRC resources are focused on those aspects of performance having the greatest impact on safe plant operation
- Applies greater regulatory attention to facilities with performance problems while maintaining a base level of regulatory attention on plants that perform well
- Goals include being objective, risk-informed, understandable, predictable, open, and effective

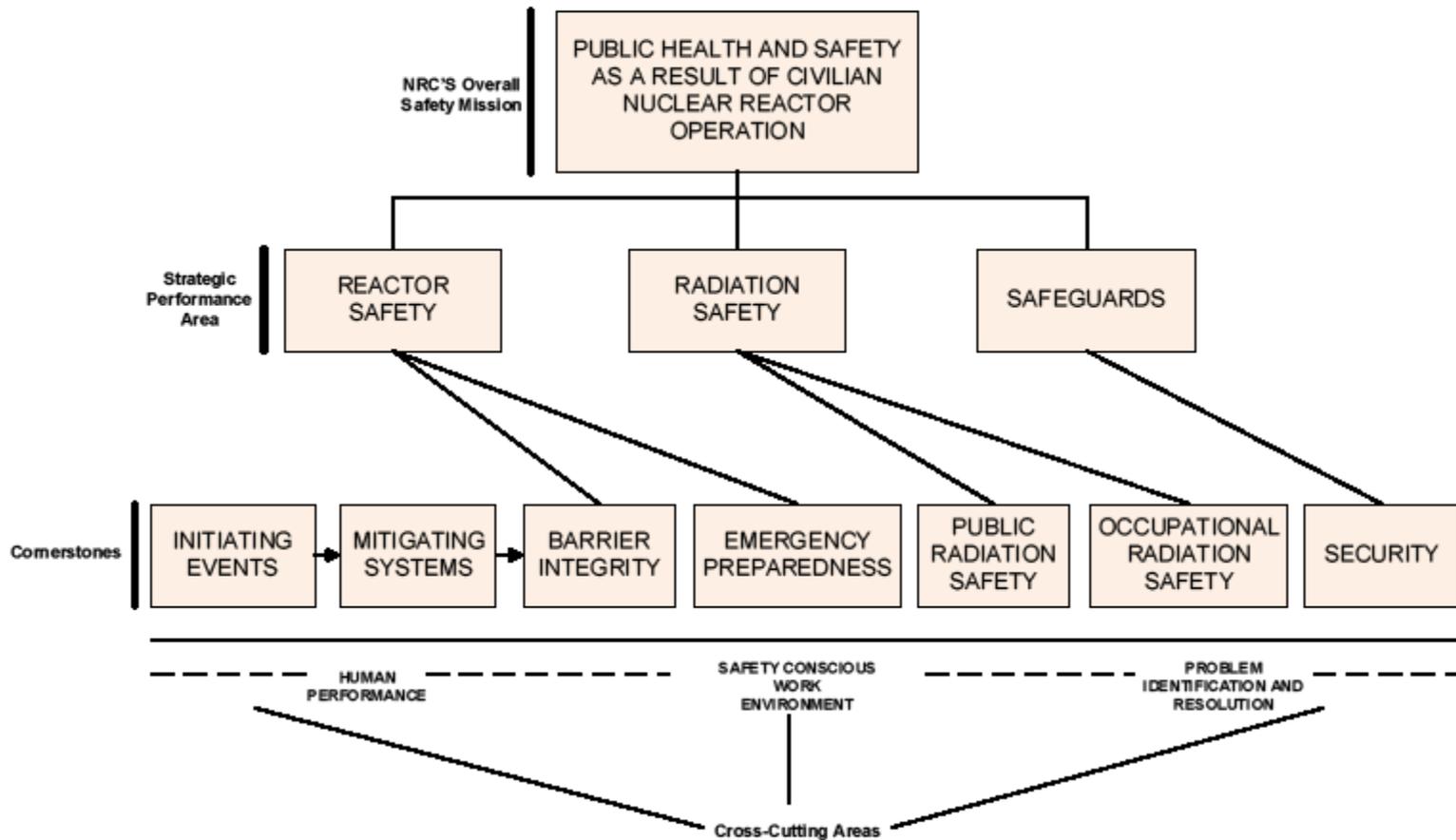
Purpose of the Reactor Oversight Process

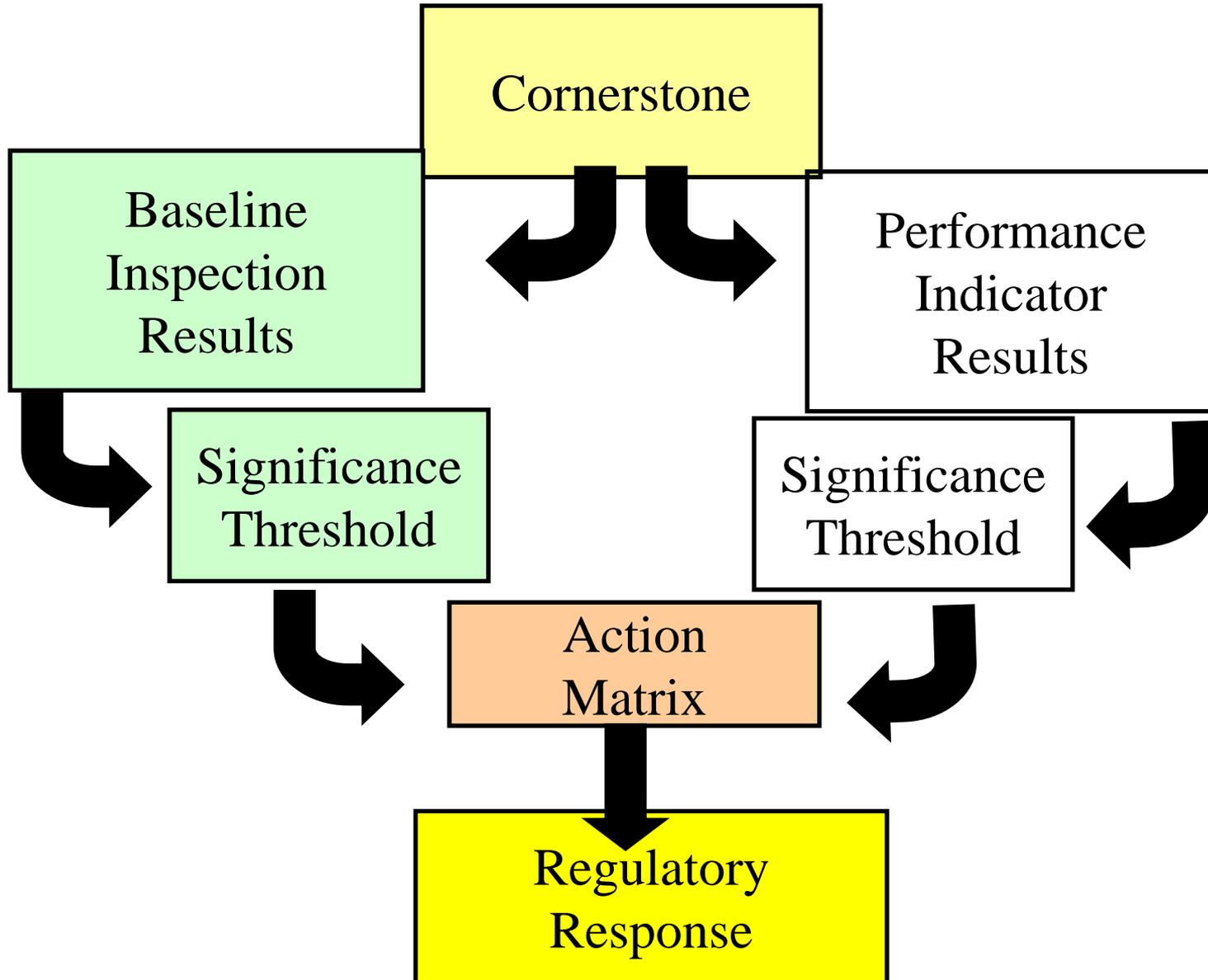
- **Improve the Objectivity of the Oversight Processes**
 - **Subjective Decision-making is Minimized**
- **Improve the Scrutability of NRC Actions – Regulatory Response and NRC Actions Have a Clear Tie to Licensee Performance**
- **Risk-inform the Processes - NRC and Licensee Resources are Focused on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

Reactor Oversight Process Inspection Program

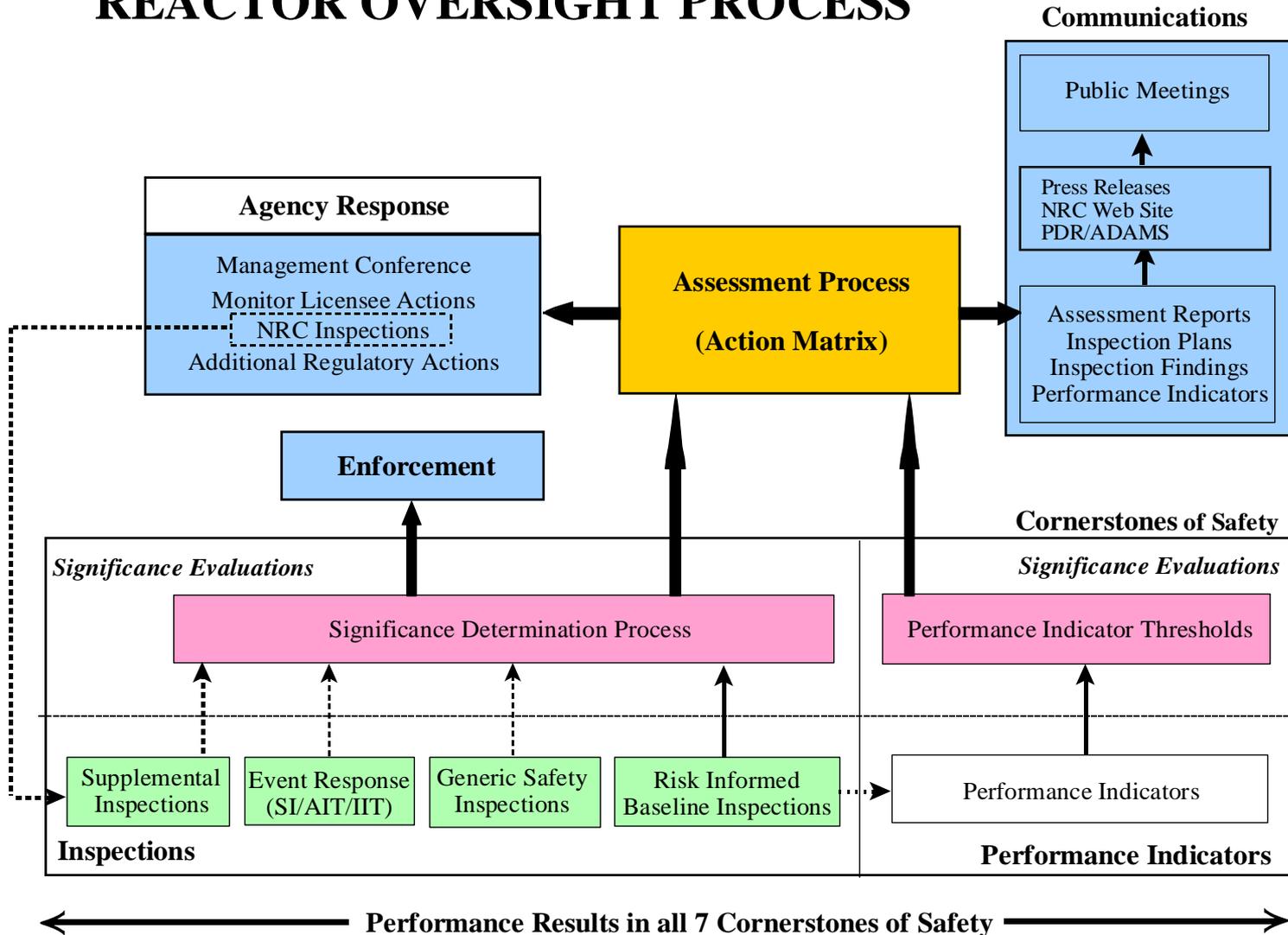
- Minimum (Baseline) Level of Inspection Conducted at All Plants
 - Inspection in Areas in Which Performance Indicators Are Not Identified or Do Not Fully Cover a Cornerstone
 - Licensee Corrective Action Program (PI&R)
- Supplemental Inspections as Needed for Declining Performance
- Event Response When Necessary
- Inspections for Resolution of Generic Issues

REGULATORY FRAMEWORK





REACTOR OVERSIGHT PROCESS



ROP Framework – Action Matrix

Licensee Response	Regulatory Response	Degraded Cornerstone	Multiple/Rep. Degraded Cornerstone	Unacceptable Performance
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Increasing NRC Inspection Efforts

Increasing NRC/Licensee Management Involvement

Increasing Regulatory Actions

ROP Components

- 13 total components
 - 9 cross-cutting + 4 other
- 4 other components not included in the cross-cutting areas include:
 - Accountability
 - Continuous Learning Environment
 - Organizational Change Management
 - Safety Policies

Cross-Cutting Areas & Components

- Human Performance (HU)
 - Decision Making
 - Resources
 - Work Control
 - Work Practices
- Problem Identification and Resolution (PI&R)
 - Corrective Action Program
 - Operating Experience
 - Self/Independent Assessments
- Safety Conscious Work Environment (SCWE)
 - Environment for Raising Concerns
 - Preventing, Detecting, Mitigating Perceptions of Retaliation

Cross-Cutting Areas, Components, Aspects

- Licensee performance that could impact more than one cornerstone of safety
- Within this framework, a safety culture aspect is assigned if it is the most significant contributor to an inspection finding
- Inspection Manual Chapters contain guidance for assigning aspects to findings

Substantive Cross-Cutting Issues (SCCIs)

- Findings with aspects evaluated during assessment cycle meetings
- SCCI identified if
 - Four or more inspection findings have a common aspect (theme) in HU/PI&R and
 - Only one inspection finding in SCWE
 - NRC not confident that licensee is addressing HU/PI&R theme or SCWE cross-cutting aspects
- SCCI closure criteria specified in assessment letters

Safety Culture Assessments (SCAs)

- NRC will perform or request licensee to perform a safety culture assessment
 - Long standing SCCIs
 - Supplemental inspection procedures (IPs) 95002 or 95003
- SC issues and assessments also considered
 - PI&R inspections – IP 71152
 - Supplemental inspections – IP 95002, 95003
 - Reactive inspections – IP 71153, 93800, 93812

Safety Culture Assessments

- IP95002 (column 3)
 - Review licensee’s root cause evaluations to determine if they identified the correct underlying safety culture issue.
 - Perform a focused assessment by conducting focus groups with licensee personnel, interviews with management.
 - Review safety culture related corrective actions, procedures, policies and training.

Safety Culture Assessments

- IP95003 (Column 4)
 - Request the licensee to conduct an independent safety culture assessment.
 - Validate the assessment and perform NRC assessment based on a graded approach.
 - Review materials similar to review during 95002.

Conclusions

- The ROP is a robust process used to assess licensee performance.
- Current approach to safety culture within the ROP framework is effective
- Process provides insights into areas important to safety culture through NRC safety culture assessments.

References

- From www.nrc.gov:
 - SECY/SRM 04-0111
 - SECY/SRM 05-0187
 - SECY 08-0046
 - SECY 09-0054
 - IMCs 0310, 0307, 0612,
 - IPs 71152, 71153, 93800, 93812
 - IPs 95001, 95002, 95003
 - NUREG-1649, Revision 4
- In ADAMS:
 - NEI 09-07 (ML091590729, ML091810811)