



U.S. NRC

UNITED STATES NUCLEAR REGULATORY COMMISSION

Protecting People and the Environment

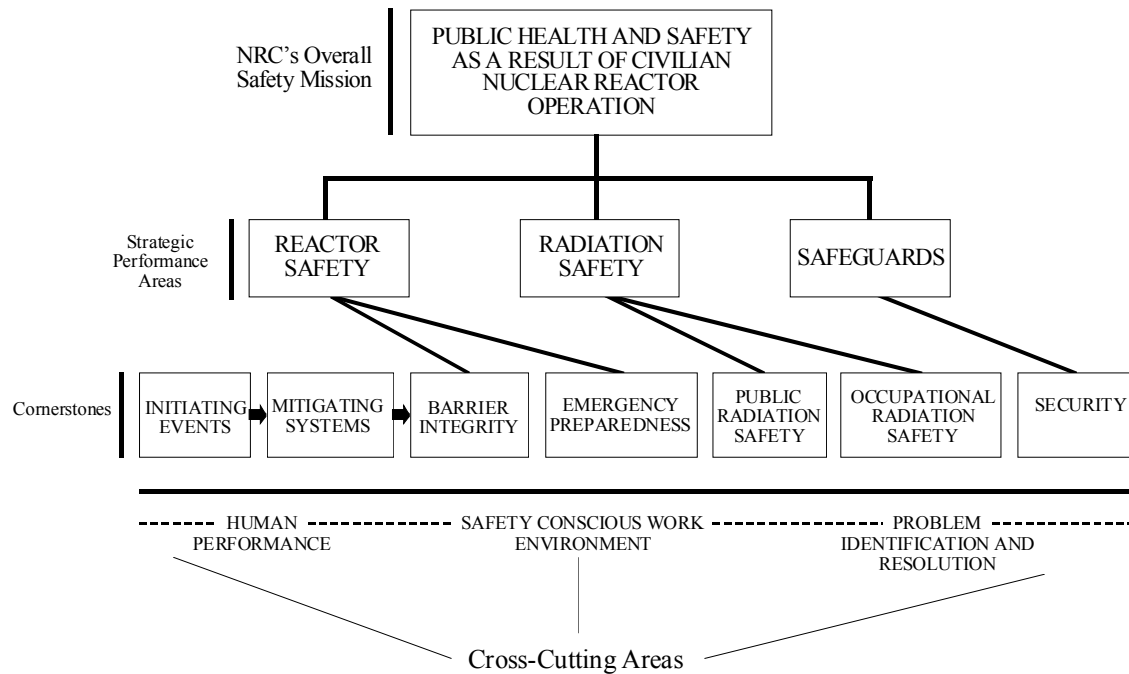
Incorporating Safety Culture into the Reactor Oversight Process (ROP)

June 2-3, 2015

**Molly Keefe, Human Factors Specialist
U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Division of Risk Assessment**

Reactor Oversight Process

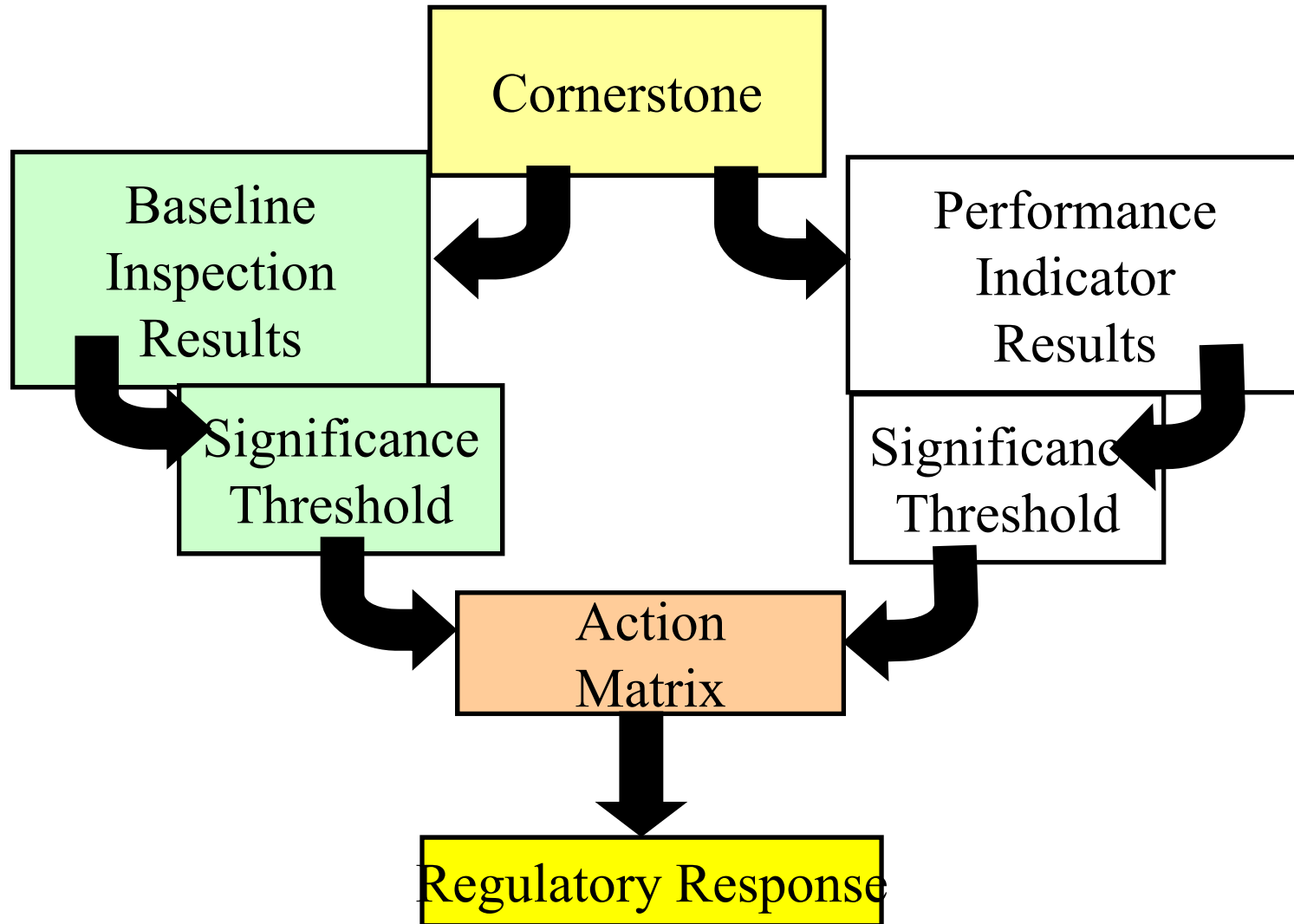
Exhibit 1: REGULATORY FRAMEWORK



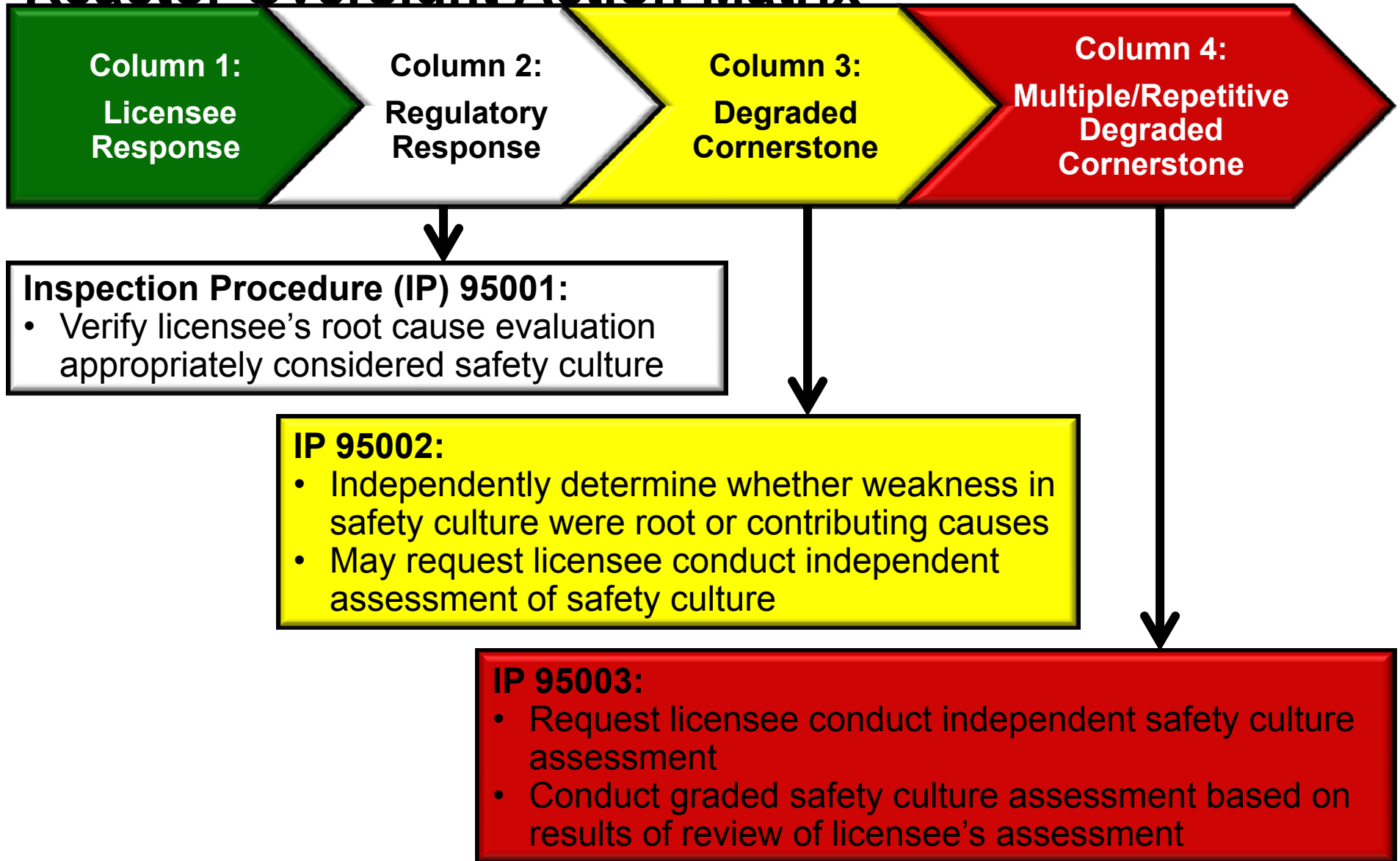


NRC Reactor Oversight Process (ROP)

- NRC's Performance Assessment Program
 - Takes inputs from Licensee Performance Indicators, and
 - NRC Inspection inputs
- Licensee performance is evaluated continuously, and at Mid-Year and End-of-Year Assessment Meetings.
- NRC determines licensee performance and assigns each licensee to a column in the Reactor Oversight Action Matrix, which determines the level of NRC regulatory response.



Reactor Oversight Action Matrix





Safety Culture Inspections

- 95002 and 95003 inspections
 - For Plants in Columns 3 (95002) and 4 (95003) (see previous slide)
 - NRC requires Licensee to conduct third party safety culture assessment which is reviewed by NRC.
 - Scope of NRC inspection is determined by the confidence in that assessment.
 - For 95002: NRC reviews licensees root cause assessments to determine if the licensee understands any safety culture implications.
 - For 95003: The NRC Staff perform the safety culture assessment of the licensee



Other Safety Culture Inspections

- IP 93100- Safety-Conscious Work Environment Issue of Concern Follow-up
- IP 40100- Independent Safety Culture Assessment Follow-up
- Vendor site audits with safety culture pieces
- Allegation follow-up Safety Conscious Work Environment (SCWE) inspections
- Pieces of safety culture embedded in the biennial IP 71152 Problem Identification and Resolution inspections



Safety Culture Common Language Initiative

- NRC issued Final Safety Culture Policy Statement in June 2011 (76 FR 34773)
- NRC engaged with the Institute for Nuclear Power Operations (INPO), the Nuclear Energy Institute (NEI), and other stakeholders to develop a common safety culture language for nuclear power reactors using the Policy Statement as a starting point
- Common language was finalized late in 2013
- Staff revised Reactor Oversight Process Inspection Procedures and Inspection Manual Chapters to reflect the common language
- Staff issued NUREG-2165 in March of 2014 which formally document common language to apply to all NRC programs.



Safety Culture Common Language Traits

Leadership Safety Values and Actions

Problem Identification and Resolution

Personal Accountability

Work Processes

Continuous Learning

Environment for Raising Concerns

Effective Safety Communications

Respectful Work Environment

Questioning Attitude

Decision- Making



Common Language Cross-Cutting Aspects

- “New” CCAs grouped by cross-cutting areas of: (IMC 0310)
 - Human Performance (H)
 - Problem Identification and Resolution (P), and
 - Safety Conscious Work Environment (SCWE) (S)
- Supplemental CCAs to be used during supplemental inspections and when performing safety culture assessments
- Inspection Manual Chapter (IMC) 0305 contains guidance for implementing the language in baseline inspections and references IMC 0310 and NUREG-2165.



Aspects to be used in the ROP

- New” CCAs grouped by cross-cutting areas of:
(Inspection Manual Chapter 0310)
 - Human Performance (H)
 - Resources
 - Field Presence
 - Change Management
 - Teamwork
 - Work Management
 - Design Margin
 - Documentation
 - Training
 - Bases for Decisions
 - Challenge the Unknown
 - Avoid Complacency
 - Consistent Processes
 - Conservative Bias



Aspects to be used in the ROP, Continued

- Problem Identification and Resolution (P)
 - Identification
 - Evaluation
 - Trending
 - Operating Experience
 - Self-Assessment
- Safety Conscious Work Environment (SCWE) (S)
 - SCWE Policy
 - Alternative Process for Raising Concerns
 - Free Flow of Information



Supplemental Cross-Cutting Aspects

- Only to be used during supplemental inspections (IP 95002 or IP95003)
 - Incentives, Sanctions and Rewards
 - Strategic Commitment to Safety
 - Roles, Responsibilities, and Authorities
 - Constant Examination
 - Leader Behaviors
 - Standards
 - Job Ownership
 - Benchmarking
 - Work Process Communications
 - Expectations
 - Challenge Assumptions
 - Accountability for Decisions



Safety Culture Assessor Qualifications

- IMC 1245 Appendix C-12, “Safety Culture Assessor” qualification Card
 - Series of Individual Study Activities (ISAs)
 - Series of On-The-Job Activities (OJTs)
 - Qualification “board” interview by Branch Chief and Subject Matter Expert
- Level I or II Qualifications
 - Level II: Qualified to be part of Safety Culture Assessment Team
 - Level 1: Qualified to Lead a Safety Culture Assessment Team (I.e. IP 95003 safety culture team)
- Currently Each Region (except RII) and HQ have qualified Safety Culture Assessors



References

- NUREG-2165: <http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr2165/>
- Inspection Manual Chapter 1245 Appendix C-12, “Safety Culture Assessor Qualification Card”
<http://pbadupws.nrc.gov/docs/ML1408/ML14084A152.pdf>
- Inspection Manual Chapter 0305, “Operating Reactor Assessment Program”
<http://pbadupws.nrc.gov/docs/ML1508/ML15089A315.pdf>
- Inspection Manual Chapter 0310, “Aspects Within Cross-Cutting Areas”
<http://pbadupws.nrc.gov/docs/ML1433/ML14337A018.pdf>