The Nuclear Regulatory Commission's Oversight of Safety Culture

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Outline

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- Overview of the NRC
- History of safety culture at the NRC
- NRC's Safety Culture Policy Statement
- Safety culture considerations in NRC oversight
  - Cross-cutting aspects and substantive cross-cutting issues (SCCIs)
  - Graded safety culture assessments
  - Allegation trends & chilling effect letters
- Safety culture concern follow-up

Nuclear Regulatory Commission

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- Established as independent agency in 1974
- Mission to ensure safe use of radioactive materials for civilian purposes, including nuclear power
  - Protect public health and safety
  - Promote the common defense and security
  - Protect the environment
- Accomplished through licensing, inspection and enforcement

NRC Safety Culture History

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1989	• Operators inattentive and unprofessional while on duty at nuclear power plant • Commission Policy Statement: Conduct of Nuclear Power Plant Operations
1996	• Workers retaliated against for whistleblowing • Commission Policy Statement: Freedom to Raise Safety Concerns Without Fear of Retaliation
2002	• Davis-Besse reactor head degradation event • NRC revised Reactor Oversight Process (ROP) to more fully address safety culture
2008	• Commission direction to develop policy statement on safety culture that applies to all licensees
2011	• Final Safety Culture Policy Statement (SCPS) published in the Federal Register

Safety Culture Policy Statement

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Sets forth the Commission's **expectation** that individuals and organizations performing regulated activities establish and maintain a positive safety culture commensurate with the safety and security significance of their actions and the nature and complexity of their organizations and functions

Safety Culture Definition

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Nuclear Safety Culture is the **core values and behaviors** resulting from a **collective commitment** by leaders and individuals to **emphasize safety over competing goals** to ensure protection of people and the environment.

Safety Culture Traits*

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Leadership Safety Values and Actions	Problem Identification and Resolution	Personal Accountability
Leaders demonstrate a commitment to safety in their decisions and behaviors	Issues potentially impacting safety are promptly identified, fully evaluated, and promptly addressed and corrected commensurate with their significance	All individuals take personal responsibility for safety
Work Processes	**Continuous Learning**	**Environment for Raising Concerns**
The process of planning and controlling work activities is implemented so that safety is maintained	Opportunities to learn about ways to ensure safety are sought out and implemented	A safety conscious work environment is maintained where personnel feel free to raise safety concerns without fear of retaliation, intimidation, harassment or discrimination
Effective Safety Communications	**Respectful Work Environment**	**Questioning Attitude**
Communications maintain a focus on safety	Trust and respect permeate the organization	Individuals avoid complacency and continually challenge existing conditions and activities in order to identify discrepancies that might result in error or inappropriate action

***Decisionmaking is also included as a trait in the safety culture common language for nuclear power reactors.**

NRC Approach to Safety Culture

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- Licensees bear primary responsibility for safety
- NRC's Safety Culture Policy Statement states safety culture **expectation**, but is not a regulatory requirement
- NRC considers safety culture within the Reactor Oversight Process (ROP) for nuclear power reactors
- NRC assessment of safety culture is primarily as a result of an event or degradation in performance
- Different levels of inspection activity based on NRC's overall assessment of licensee performance

NRC Reactor Oversight Process (ROP)

- NRC's Performance Assessment Program for operating nuclear power reactors
  - Inputs derived from licensee performance indicators and NRC inspection findings
- Licensee performance evaluated continuously
  - Including mid-year and end-of-year assessment meetings
- NRC assigns each licensee to a column in the ROP Action Matrix based on performance
- Action Matrix placement determines level of NRC regulatory oversight

Reactor Oversight Process

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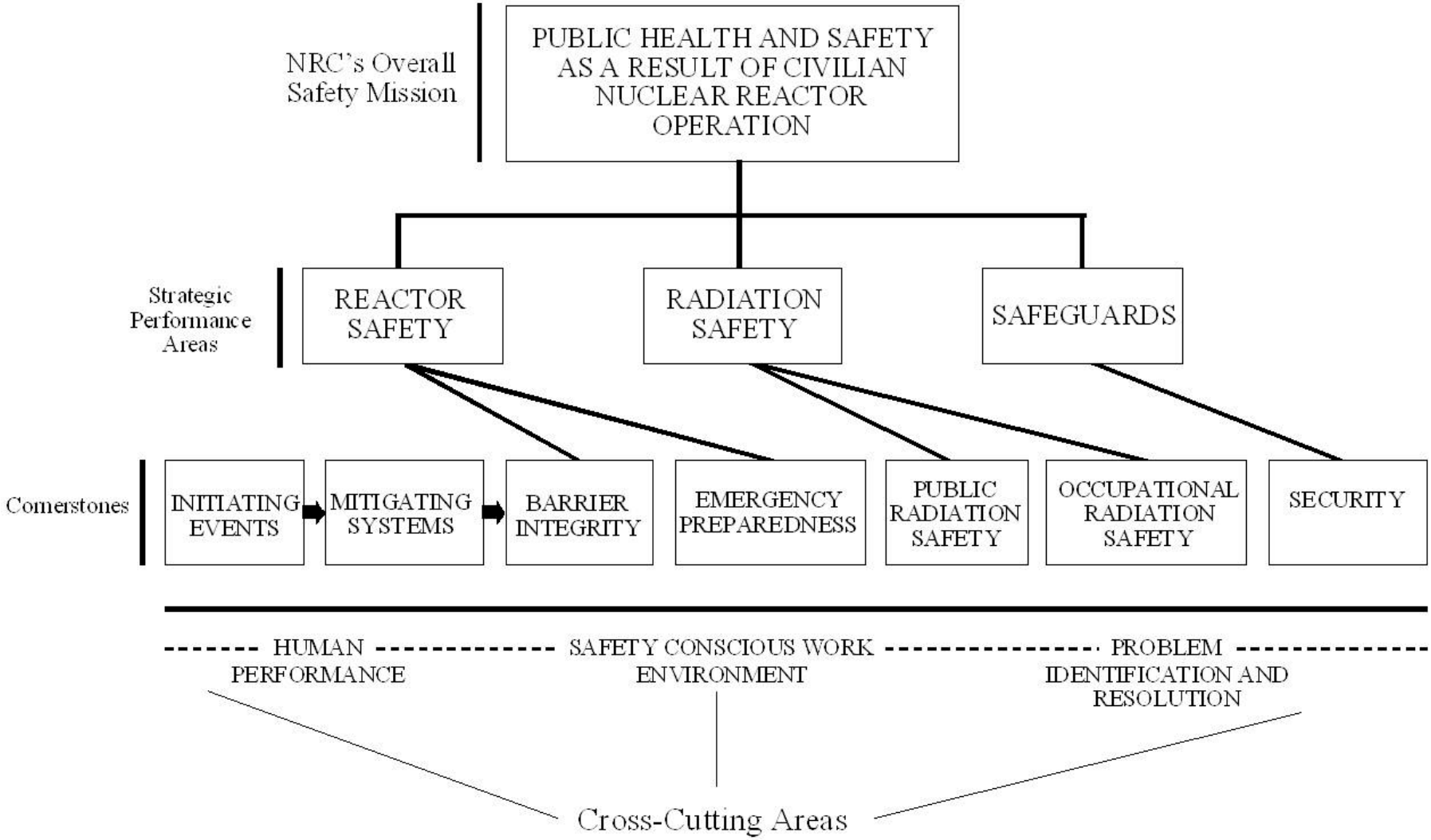

Safety Culture Common Language Initiative

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- Joint effort with the Nuclear Energy Institute (NEI), Institute for Nuclear Power Operations (INPO), and other stakeholders from 2011 to 2013
- Common language includes 10 traits of a healthy safety culture, 40 aspects (performance characteristics) representing those traits, and numerous examples
- Common language traits and aspects have been incorporated under the ROP cross-cutting areas

ROP Cross-Cutting Aspects and Substantive Cross-Cutting Issues

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- Cross-cutting aspects (CCAs) are assigned to NRC inspection findings when performance deficiencies have potential cross-cutting causal factors
- NRC assigns a substantive cross-cutting issue (SCCI) through its assessment process when:
  - a cross-cutting theme exists,
  - and NRC has concerns about progress in addressing the issue
- CCAs and SCCIs may indicate a potentially degraded safety culture and warrant further evaluation
- Conclusions about safety culture are only made as a result of safety culture assessments conducted by qualified staff

NRC's Graded Approach to Safety Culture Assessment

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- Extent of NRC safety culture assessment is based on licensee placement in the ROP Action Matrix
- Assessments also typically performed to address longstanding SCCIs
- Scope and complexity of the assessment increases with increased oversight
- Assessment focus may be tailored to the identified performance deficiencies

Reactor Oversight Action Matrix

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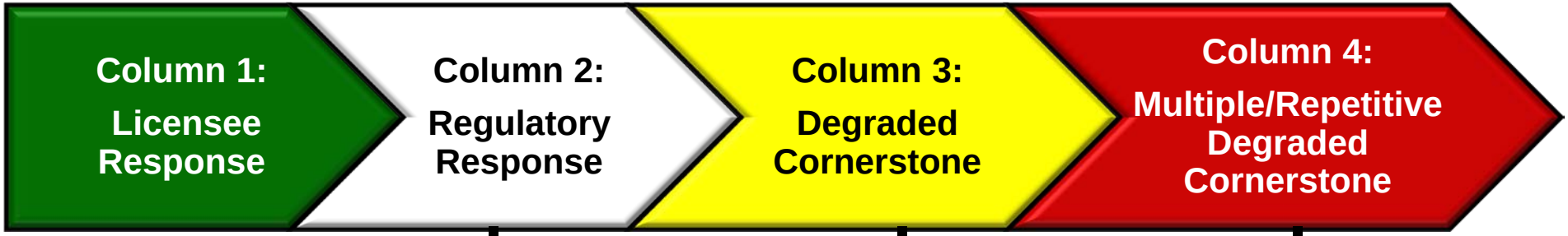

Inspection Procedure (IP) 95001:
- Verify licensee's root cause evaluation appropriately considered safety culture

IP 95002:
- Independently determine whether weaknesses in safety culture were root or contributing causes
- May request licensee conduct independent assessment of safety culture

IP 95003:
- Request licensee conduct independent safety culture assessment
- Conduct graded safety culture assessment based on results of review of licensee's assessment

IP 95003 Assessment Process

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1. Evaluate licensee's third party safety culture assessment
   - Review methodology, results, and licensee response
2. Determine scope of NRC assessment based on evaluation of third party assessment
   - Range from limited focus to full scope assessment
   - Includes document reviews, behavioral observations, interviews, and focus groups
   - Each assessment plan is tailored to the site
3. Conduct assessment, identify and document safety culture themes
4. Evaluate whether planned/completed actions address themes

Allegation Trends & Chilling Effect Letters

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- **Chilling Effect** – When an event, interaction, decision, or policy change results in a perception that the raising of safety concerns is being suppressed or is discouraged
  - Discrimination for raising a nuclear safety concern
  - Allegation trends
- NRC may issue a Chilling Effect Letter if concerned about licensee's safety-conscious work environment (SCWE)
  - Publicly notifies licensee of NRC's concern
  - Informs workforce of concern
  - Formally requests information/response

Safety Culture Concern Follow-up

- NRC may document concerns in multiple ways:
  - Requests for information
  - Inspection reports
  - Mid-cycle or annual assessment letters
- Licensees respond to communications with planned corrective actions
- NRC and licensee may enter into agreements for specific actions
  - Confirmatory Orders & Confirmatory Action Letters
- NRC conducts follow-up reviews/inspections
  - Criteria for verifying proper implementation developed based on agreed-upon actions

Summary

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- NRC communicates safety culture expectations through the Safety Culture Policy Statement
- Safety culture considerations incorporated in the Reactor Oversight Process through cross-cutting areas and supplemental inspection activities
- NRC may also address safety-conscious work environment concerns through Chilling Effect Letters
- Licensees respond to specific concerns with planned actions
- NRC reviews actions and conducts follow-up reviews/inspections to close concerns or verify implementation

For More Information

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- Please visit NRC's safety culture webpage at: http://www.nrc.gov/about-nrc/safety-culture.html

- Or contact NRC staff via email at: external_safety_culture.resource@nrc.gov