

Safety Culture for Nuclear Power Plant Vendors and Suppliers

Molly Keefe-Forsyth

U.S. Nuclear Regulatory Commission

Outline

- NRC's Safety Culture History
- NRC's Role in Safety Culture
- Safety Culture Policy Statement
- Safety Culture at Vendor Facilities

Safety Culture History at the NRC

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

NRC Safety Culture Policy Statement

*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*

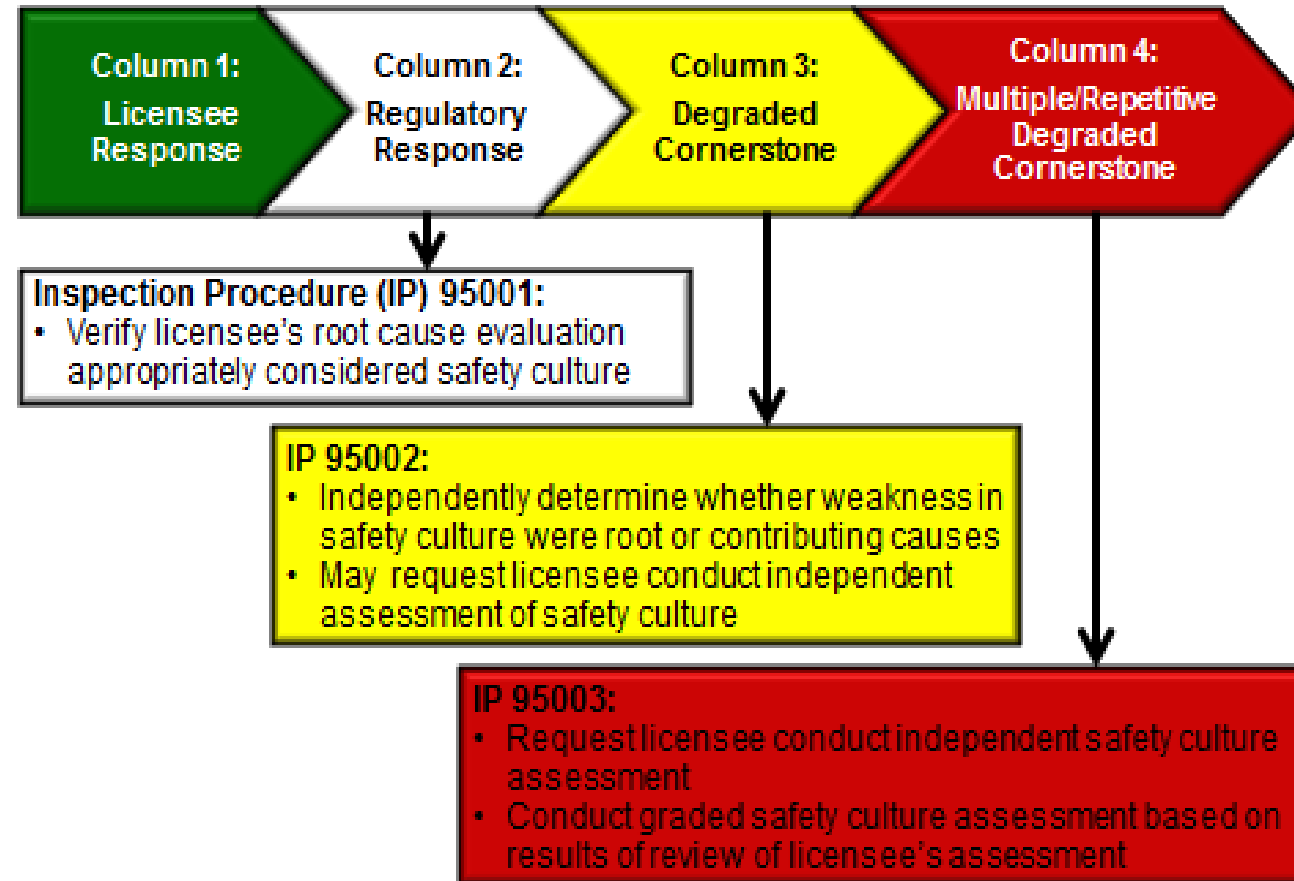
NRC Safety Culture Definition

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

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

Reactor Oversight Action Matrix



Safety Culture Gone Wrong

- From 2010-2013, the NRC noted an increasing trend in safety conscious work environment (SCWE)-related concerns at Shaw Modular Services (SMS)
- The NRC performed inspections in January 2011, November 2011, and September 2012
 - Identified ineffective corrective action program (CAP)
- A third-party SCWE assessment conducted in February 2012
 - Identified a chilled environment existed at SMS
 - After a year, no plan was drafted to address identified issues (February 2013 Chicago Bridge & Iron (CB&I) purchased SMS)
- In April 2013, NRC issued CB&I a CEL
 - Notice of Violation (NOV) with proposed civil penalties

Safety Culture Gone Wrong

- In September 2013, NRC issued Confirmatory Order (CO) to CB&I
 - Title 10 of the *Code of Federal Regulations* (10 CFR) Section 52.5, “Employee Protection”
 1. Terminated QA supervisor for notifying NRC licensee of potential faulty rebar, and
 2. Language in Corporate Code of Conduct restricting employees engaged in protected activities of notifying NRC licensee of matters within NRC’s regulatory responsibility
- In February 2014, NRC inspection to assess progress
 - SCWE assessment part of inspection
- In September 2014, revised CO issued. §52.4, “Deliberate Misconduct,” for:
 1. SMS welder taking qualification test for a coworker;
 2. Coworker allowing the action; and
 3. Weld test administrator participating

Safety Culture Gone Wrong

- In December 2014, NRC issued Discretion Letter against §52.4 for the following:
 - Two NOVs:
 1. SMS foreman signing weld tags for welders;
 2. Foreman instructing welder to sign off on welds not qualified to perform
 - Three Notices of Nonconformance (NONs):
 1. Foreman failing to ensure qualified welder used to perform specific welds;
 2. Not following procedure for submodule lift; and
 3. Failure to initiate a nonconformance report (NCR) for dropped submodule

Safety Culture Gone Wrong

- In December 2014, NRC issued Choice Letter for two \$52.4 NOVs for two CB&I officials and safety representative instructing employees to omit the following from an incident report:
 1. Submodule had been dropped and damaged; and
 2. Improper rigging used and broke
- Severity Level (SL) II violation and civil penalty issued for dropped submodule, and SL III violation issued to a former company official

Safety Culture Gone Wrong

- In May 2015, NRC inspection to assess CB&I implementation CO and SCWE. Progress was noted.
 - However, effectiveness of Corrective Actions at other facilities were of concern . . .

Questions . . .

