

Observations of Implementing the “Nuclear Promise” for CAP

A Pendulum Swing in CAP



Jack Martin
Vice President, Consulting
BackPacker Jack, Inc. – F-11070 TX

Objectives

- CAP Regulatory Requirement
- The evolution of CAP.
- Barnacles on the CAP boat
- An industry revolution
- Are we burning bridges- observations of the pendulum swing
- Cautions and observations
- Questions?

CAP Regulatory Requirement

[\(10 CFR 50 Appendix B Criterion XVI Corrective Action\)](#)

- **Measures** shall be established **to assure that conditions adverse to quality**, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances **are promptly identified and corrected**
- In the case of **significant conditions** adverse to quality, the measures shall **assure that the cause** of the condition **is determined and corrective action taken to preclude repetition.**
- The identification of **the significant condition** adverse to quality, **the cause** of the condition, **and the corrective action** taken **shall be documented and reported to** appropriate levels of **management.**

Evolution of CAP

- 10CRR50Appx B- Identify QA applicable and Non-Quality Systems, Structures and Components SSCs).
- Added Supplemental QA applicable (supporting SSCs)
- Recognition of need to have a structured analysis process for SCAQ
- Added 10CFR21, Fire Protection, Maintenance Rule, Emergency Planning, Security, Safety Culture
- ROP added cross-cutting issues
- Single-entry systems- included CAP and Non-CAP issues

Barnacles

- Differentiation between CAP and Non-CAP issues became weak
- All issues in the system treated the same
- Developed Apparent Cause Analysis and Lower levels of cause analysis
- 1000 page RCAs; 100's of pages ACEs; dozens of pages "Simple cause"
- 100's of CAs for a single event
- Industry inconsistent approach to cause analysis- RCA, ACE, Basic
- Operations Operability Evaluations overwhelms Control Room
- Inconsistent use of Operating Experience
- Inadequate Extent of Condition and Extent of Cause (where required)

Revolution

INPO 14-04 Conduct of Performance Improvement

- CNOs concern- accumulation of low-value process controls and administrative requirements that have been established in station performance improvement programs over the years.
- CNOs recognized station leaders were spending an inordinate amount of time and resources administrating the performance improvement process
- Outlines desired behaviors and practices that support excellence in problem prevention, detection, and correction for an operating commercial nuclear power plant.
- Graded approach to addressing issues:
 - Corrective Action Program (SCAQ, CAQ & CAQ+)
 - Approved processes (CAQ+)
 - Management Action (Non-CAQ)

More of the Revolution

NEI Efficiency Bulletin: 16-10 "Reduce Cumulative Impact From the Corrective Action Program "- Issues identified:

- CAP Process & administrative requirements impacting effectiveness of plant supervisors and managers and challenging sustained high levels of plant performance.
- Station leaders rely on CAP process to manage business
- Trending of all issues through CAP
- Cause evaluations applied to issues outside CAP
- Tendency to "layer on" CAs and establish additional reviews or committees to address issues of relatively low significance.

Revolution Solution

NEI Efficiency Bulletin: 16-10 "Reduce Cumulative Impact From the Corrective Action Program "- Solutions:

- CRs used to identify issues
- Issues that affect Quality documented in a CAP
- Most CAQ addressed without cause evaluation
- Cause Evaluations for SCAQ-assigned a CAPR
- Condition reports for issues that do not meet the criteria established by 10 CFR 50, Appendix B, Criterion XVI, the station's quality assurance program requirements, or other regulatory standards, are closed to other management systems and processes.


Revolution continues

NEI 16-07 CAP Enhancements for Improving Safety & Efficiency

- Increase efficiency for reporting and resolving issues.
- Elimination of low-value work activities and administrative requirements
- Less time processing CRs
- More time on identifying and fixing problems.
- Organizational focus on conditions affecting safety and operational performance
- Leadership to spend time in the field observing work and coaching worker behaviors.
- The enhanced CAP will maintain the ability of the nuclear power plant workers to identify and address undesired conditions in accordance with U.S. Nuclear Regulatory Commission (NRC) regulations and guidance.

Burning bridges or a Pendulum Swing

- Objective of INPO 14-04 was to return CAP to 10CFR50 Appendix B
- Eliminate the Find, Analyze and Fix model of CAP- everything does not have to be analyzed!
- New model is Prevent, Find, Bin, Analyze the Bin & Fix
- Have we forgotten why we added so many things into CAP?
- Can we put this genie back in the bottle?



NRC IP 71152

Problem Identification and Resolution

- More than simple review of Appendix B
- Issues associated with Safety Culture-all 10 traits
- Defects & Non-conformances (Appendix B and 10CFR21)
- Maintenance Rule
- Operator Work Arounds

NRC IP 71152

Problem Identification and Resolution

- 01.01 To evaluate the **effectiveness** of the licensee's corrective action program in **identifying, prioritizing evaluating, and correcting problems.**
- 01.02 To confirm that licensees are **complying with NRC regulations** regarding corrective action programs.
- 01.03 To help the NRC **gauge supplemental response** when ROP Action Matrix thresholds are crossed.
- 01.04 To **confirm** the licensee's appropriate **use of industry and NRC operating experience.**

NRC IP 71152

Problem Identification and Resolution

- 01.05 To evaluate the effectiveness of licensee **audits and self-assessments**.
- 01.06 To confirm licensees have established a **safety conscious work environment**.
- 01.07 To follow-up on corrective actions for selected **previously identified compliance issues** (e.g., non-cited violations (NCVs)).
- 01.08 To verify that licensees are identifying and placing potential **10 CFR21** issues into the Corrective Action Program (CAP) and appropriately evaluating them.

Cautions and Observations

- Failure to recognize Significant Conditions-typically loss of safety function
- Failure to recognize regulations other than 10CFR50 Appendix B
 - 10CFR26.31 FFD program personnel qualifications
 - 10CFR26 Subpart I Fatigue Management-Inadequate control of work hours
 - 10CFR50.47 Emergency Plans- classification
 - 10CFR50.65 Maintenance Rule issues- recognition of a(1) status
 - Other Regulations including Environmental, State & Local, etc.
- Assuming that the “cause of an event” is well understood without any analysis

Deficiencies Observed

- Failure to properly identify CAQ- issues to be addressed in the CAP
- Failure to maintain traceability of CAP in “other management systems”
- Failure to adequately address Maintenance Rule equipment failures
- Inadequate depth of investigation of SCAQ
- Failure to provide adequate documentation of actions taken
- Setting arbitrary limits on the number of CAs for an issue
- Coding CAs from CAP issues as non-CAP (Regulator does not care)



Questions?