



U.S.NRC

United States Nuclear Regulatory Commission

Protecting People and the Environment

FUEL CYCLE OVERSIGHT ENHANCEMENTS

Thursday, March 17, 2011



Commission Direction

□ Commission direction

- SRM: M100429, Briefing on the Fuel Cycle Oversight Process Revisions
- SRM to SECY-10-0031
- SRM to SECY-09-0190
 - Provide the Commission ISA/PRA comparison paper.
 - Develop a set of cornerstones that could be applied to the FCOP.
 - Provide incentives for licensees to maintain strong CAPs.
 - Implement revisions to baseline (core) inspection program to credit licensees' CAPs.
 - Propose revisions to Enforcement Policy to provide licensees with credit for effective CAPs.
 - Once the cornerstones and ISA/PRA comparison paper are complete, provide the Commission with an assessment of the work accomplished and recommendations for next steps.



ISA/PRA Comparison Paper

- Transmitted to ACRS on 12/15/2010 (ML103330471).
- ACRS Subcommittee meeting held on 1/11/2011
- Full ACRS meeting held on 2/10/2011.
- ACRS Letter Report issued on 2/17/2011 (ML110460328).
- Transmit to the Commission by 3/18/2011.
- EDO Response to ACRS Letter Report by 3/24/2011



Cornerstone Development

- Derived from the NRC's mission and strategic goals
 - ▣ Safety cornerstones
 - ▣ Security cornerstones
- Also use strategic outcomes, regulations, and MOU with OSHA (jurisdiction over chemicals – not mentioned in NRC's Strategic Plan)
- Technical bases for each cornerstone
 - ▣ Identify objective and scope
 - ▣ Identify desired results and key attributes
 - ▣ Identify what should be measure to ensure cornerstone objective is met



Corrective Action Programs

- Develop criteria for an effective CAP
 - Ask licensees and members of the public for feedback on these criteria
- For discussion with licensees: Options to capture criteria for an effective CAP.
- Develop draft IP to verify if CAP is effective
- Develop staff training on draft IP
- Propose changes to core inspection program and Enforcement Policy
- Implement changes to Enforcement Policy (i.e., Commission approval) by 3/2012
- Inspect licensees' CAPs to verify its effectiveness
- Implement changes to core inspection program
- Receive credit for an effective CAP
 - Disposition SL IV violations as NCV if all criteria in Section 2.3.2.a of the Enforcement Policy are met.



Schedule

- Draft Cornerstones and Criteria for CAP
 - Share these documents with NEI, industry, and members of the public two weeks before next public meeting
- Discuss these items and obtain feedback in possible public meeting in mid April

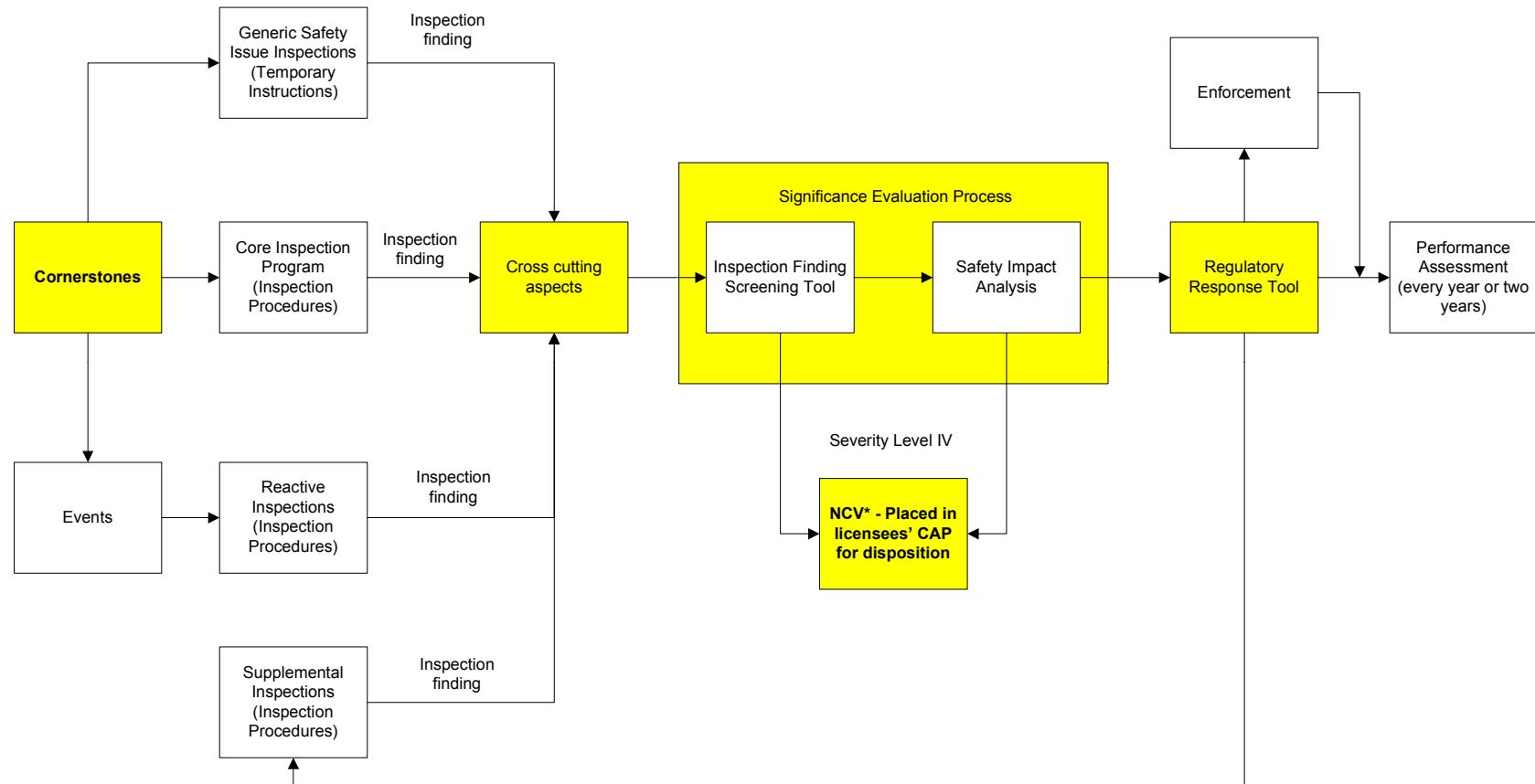


Schedule

(continued)

- Incorporate feedback from NEI, industry, and members of the public
- Integrate knowledge from ISA/PRA paper and cornerstone development to recommend next steps to enhance the FCOP – SECY paper
- SECY paper will include status on CAP activities
- SECY paper due date – 7/29/2011

Conceptual Enhancements to FCOP



Yellow blocks indicate new elements that might be present in an enhanced fuel cycle oversight process
Bolded text in yellow blocks indicate current efforts to enhance the fuel cycle oversight process

CAP = Corrective Action Program

Inspection finding = a non-compliance with NRC regulations or license conditions that is greater than minor (see Section 2.3.1 of the NRC Enforcement Policy for more information on minor violations)

Cross cutting aspects to be defined later

* Placing the Severity Level IV violation in the CAP is not the only criteria to disposition it as a Non Cited Violation (NCV). See Section 2.3.2.a of the NRC Enforcement Policy for the additional criteria that must be met.



Proposed Oversight Framework

NRC Mission

License and regulate the Nation's civilian use of byproduct, source, and special nuclear materials to ensure adequate protection of public health and safety, promote the common defense and security, and protect the environment

Strategic Goals

Safety

Security

Cornerstones

Facility Operational Safety

Radiological Materials Safety

Criticality Safety

Chemical Process Safety

Emergency Preparedness

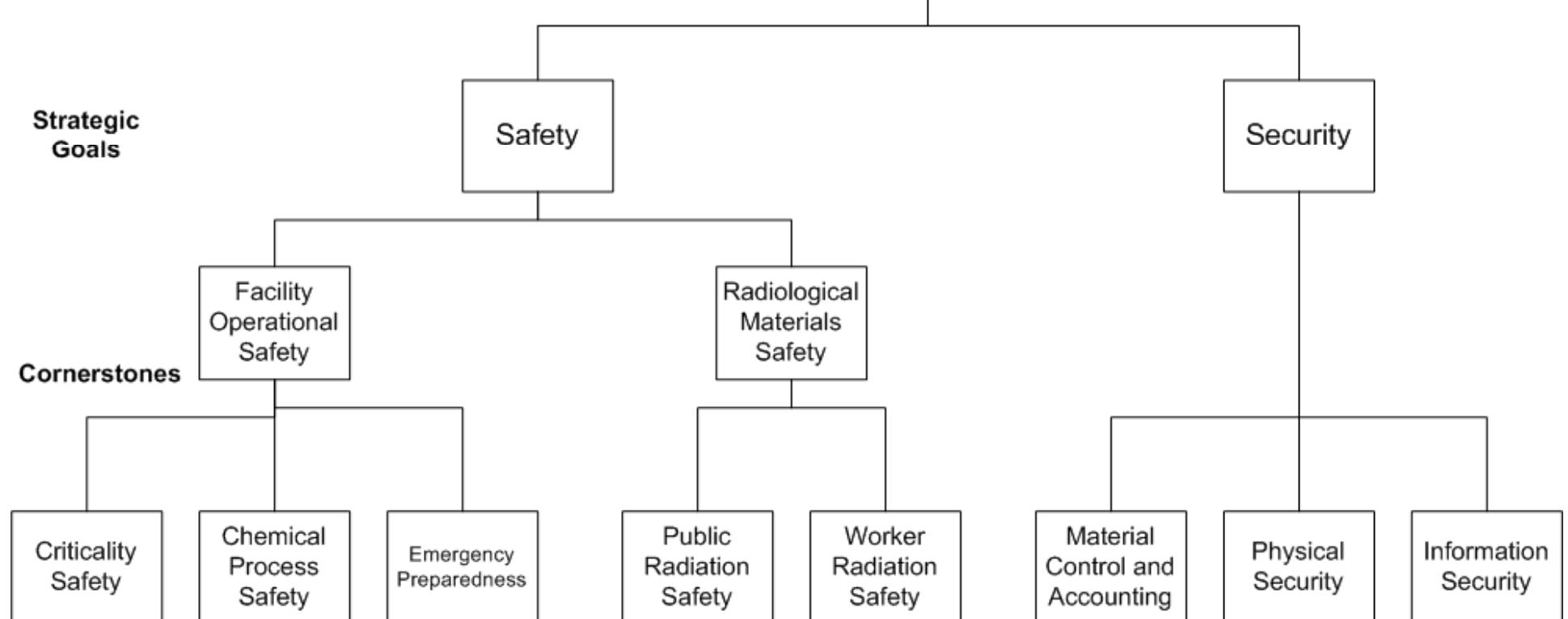
Public Radiation Safety

Worker Radiation Safety

Material Control and Accounting

Physical Security

Information Security





Proposed Cornerstone Objectives

- Criticality Safety – The objectives are to:
 - limit the frequency of those events that challenge NCS controls and NCS IROFS or other controls in the safety analysis
 - ensure the availability, reliability, and capability of NCS controls and IROFS.
- Chemical Process Safety – The objectives are to:
 - limit the frequency of those events that challenge nuclear chemical process safety IROFS or other controls in the safety analysis
 - ensure the availability, reliability, and capability of chemical process safety IROFS and controls.

Proposed Cornerstone Objectives



- Emergency Preparedness - The objective of this cornerstone is to ensure that the license is capable of implementing adequate measures to protect public health and safety in the event of a radiological or chemical emergency (for those chemicals under NRC jurisdiction).
- Worker Radiation Safety - The objective of this cornerstone is to ensure adequate protection of worker health and safety from exposure to radiation and radioactive materials during normal (non-accident) fuel cycle facility operation. This exposure could come from poorly controlled radiation areas or radioactive material that unnecessarily exposes workers. Licensees can maintain worker protection by meeting applicable regulatory limits and ALARA guidelines.



Proposed Cornerstone Objectives

- Public Radiation Safety - The objective of this cornerstone is to ensure adequate protection of public health and safety from exposure to radioactive material released into the public domain as a result of normal (non-accident) fuel cycle facility operations. These releases include gaseous and liquid radioactive effluent discharges, the release of potentially contaminated solid materials, and the offsite transport of radioactive materials and wastes. Licensees can maintain public protection by meeting the applicable regulatory limits and constraints and "as low as is reasonably achievable" (ALARA) guidelines.



Corrective Action Program

□ Basic Attributes

- CAP documented and described in policies, programs and procedures
- Managers, supervisors, and staff trained on and encouraged to implement CAP policies, programs, and procedures



Corrective Action Program

- CAP policies, programs, and procedures ensure that:
 - Safety and security issues of the nature and scope described in the CAP are identified and reported by the means described in the CAP
 - Issues are assessed for significance and evaluated to identify causal factors (contributing and root causes), extent of condition and extent of cause
 - Corrective actions developed and implemented in a timely manner and appropriate to prevent recurrence



Corrective Action Program

- Completion of corrective actions is verified and effectiveness assessed before closure
- Issues, their contributing and root causes, and corrective actions are tracked to monitor CAP status and performance
- CAP data is trended to assess the potential for recurrence of issues, to identify indications of conditions that may result in additional or more serious issues, and to assess the effectiveness of the causal factors evaluations and corrective actions



Corrective Action Program

- Managers, supervisors, and staff can report issues without fear of retaliation or discrimination
- CAP performance is periodically assessed by an independent entity



Acronyms

- ACRS – Advisory Committee on Reactor Safeguards
- CAP – Corrective Action Program
- EDO – Executive Director for Operations
- FCOP – Fuel Cycle Oversight Process
- IP – Inspection Procedure
- IROFS – items relied on for safety
- ISA – Integrated Safety Analysis
- LAR – License Amendment Request
- MOU – Memorandum of Understanding
- NCV – Non-cited Violation
- NCS – Nuclear Criticality Safety
- NEI – Nuclear Energy Institute
- NRC – U.S. Nuclear Regulatory Commission
- OSHA – U.S. Occupational Safety and Health Administration
- PRA – Probabilistic Risk Assessment
- SL – Severity Level
- SRM – Staff Requirements Memorandum