Revised Fuel Cycle Oversight Process (RFCOP)

March 16, 2016

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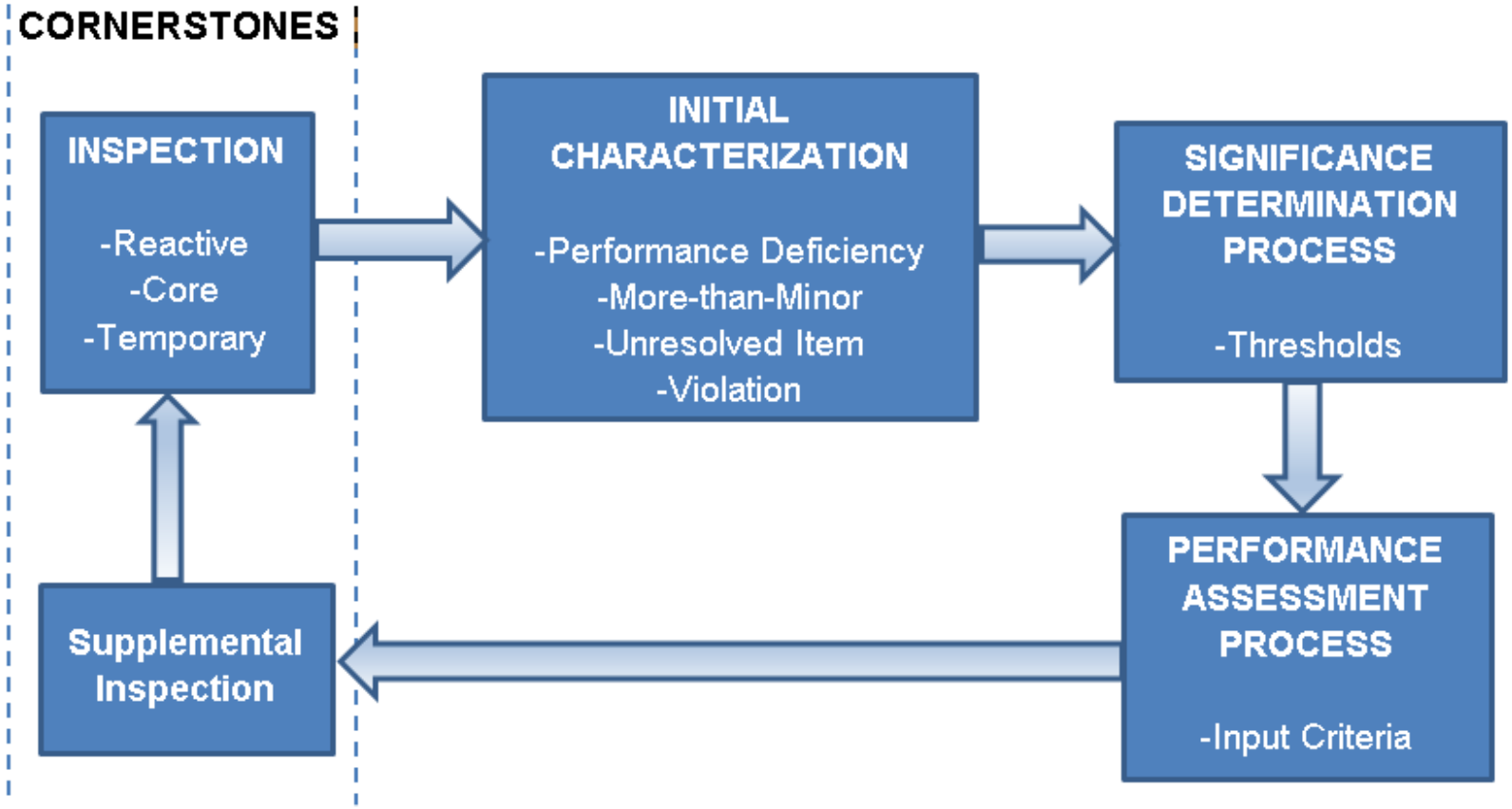
Purpose

- Discuss current RFCOP initiatives:
  - Draft Fuel Cycle Significance Determination Process (SDP) framework and cornerstone-specific tools
  - Proposed options to reduce core inspection resources for facilities with an approved Corrective Action Program (CAP)

Objectives

- Finalize draft definition of Performance Deficiency
- Discuss/gather feedback on:
  - Draft Significance Determination Process (SDP) framework
  - Cornerstone-specific SDP tools (high-level look)
  - Proposed option to reduce core inspection resources for facilities with an approved CAP

RFCOP Overview



Significance Determination Process (SDP)

- The input to the SDP (from the Inspection Program) is a Performance Deficiency that has been determined to be More-than-Minor.
  - Performance Deficiency (draft definition) – The licensee's failure to satisfy one or more regulatory requirement which was foreseeable and preventable.
  - The More-than-Minor threshold is determined by the generic and cornerstone-specific criteria in IMC 0616, Appendix B.

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SDP – The Overall Process

- More-than-minor performance deficiency is directed to the appropriate cornerstone-specific SDP tool (i.e., appendix)
- The SDP tool will typically apply screening logic to see if the performance deficiency can be finalized as non-escalated (i.e., SLIV-type significance).
- If the performance deficiency cannot be screened out then it will continue on to a more detailed evaluation.

SDP – The Overall Process

- If the detailed evaluation determines the significance is non-escalated (SLIV-type), then that is the final significance determination.
- However, if the detailed evaluation determines that the significance could be escalated (i.e., SLIII-type or higher) then a Significance and Enforcement Review Panel (SERP) will convene to determine the preliminary significance.
- The SERP panel members (i.e., decision-makers) are NRC Division-level managers. If the SERP determines that the significance is non-escalated, that is the final determination.

SDP – The Overall Process

- If the SERP decides that the preliminary significance is escalated, then that preliminary significance determination is communicated to the licensee via letter.
- The licensee has the opportunity to respond via letter, request a Regulatory Conference to discuss their perspectives in a public meeting format, or accept the significance determination.
- Based on any new information provided, the SERP will make a final significance determination and communicate that decision via letter.
- Licensee can appeal the final significance determination if certain criteria are met.

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SDP – Thresholds

- The thresholds for safety and security significance need to be defined and appropriately applied to each cornerstone-specific SDP tool (e.g., criticality, EP, security).
- Traditional Enforcement uses severity levels (e.g., SL IV, III, II, I).
- The Reactor Oversight Process uses colors (e.g., Green , White, Yellow, Red).
- The RFCOP needs to adopt a similar conceptual framework for thresholds.

SDP – Criticality and Chemical Operational Safety

- Screening questions have been challenging to develop. More-than minor performance deficiencies may go directly to a detailed evaluation.
- The detailed evaluation will provide guidance on:
  - Consequence(s)
  - Accident Sequence(s)
  - Credit for various controls, IROFS
  - Determining likelihood

SDP – Emergency Preparedness

- SDP screening questions focus on:
  - Training
  - Notifications to response organizations
  - Communication checks, exercises, exercise critiques
  - Emergency Plan commitments
- Only thresholds are SLIV and SLIII type significance (e.g., Green, White).
- Example, the failure to satisfy a commitment resulting in a loss of emergency response function would be escalated; a degraded function would be non-escalated.

SDP – Occupational Radiation Safety

- SDP logic and thresholds use the power reactor SDP (IMC 0609, Appendix C) as a technical reference.
- SDP focuses on:
  - ALARA Planning
  - Work Controls
  - Over exposures
- Example, a performance deficiency resulting in an potential for overexposure (dose or intake) between 2x and 3x the limit would be escalated; between 1x and 2x the limit would be non-escalated.

SDP – Public Radiation Safety

- SDP logic and thresholds use the power reactor SDP (IMC 0609, Appendix D) as a technical reference.
- SDP focuses on:
  - Radiological Environmental Monitoring Program (REMP)
  - Radiological Material Control Program (RMCP)
  - Transportation
- Example, a radiation material control deficiency resulting in a public exposure between 0.005 and 0.100 rem would be escalated, and an exposure of less than 0.005 rem would be non-escalated.

SDP – Security

- SDP logic will be similar to the power reactor SDP (IMC 0609, Appendix E) as a technical reference.
- SDP focuses on:
  - Access Authorization
  - Access Control
  - Physical Protection
  - Contingency Response Measures
  - Information Security
- The SDP will use qualitative and deterministic inputs to characterize the security significance of performance deficiencies.

SDP – Material Control and Accounting (MC&A)

- MC&A SDP logic and thresholds plan to use the power reactor SDP as a practical reference.
- SDP focuses on:
  - Implementation of the Fundamental Nuclear Material Control Plan
  - Prevention of Loss, Theft, Diversion or Over Enrichment of Special Nuclear Material
- The SDP will use qualitative and deterministic inputs to characterize the security significance of performance deficiencies.

Core Inspection Resource Reduction with an Approved CAP

- Conceptually, a decrease in core inspection resources may be warranted for a facility with an approved CAP because the licensee has demonstrated proficiency in:
  - Self-identifying issues
  - Prioritizing the significance of the issues
  - Determining the cause(s) of the issue(s) based on the significance
  - Developing effective corrective actions to address each causal factor that led to the issue(s) and prevent recurrence

Core Inspection Resource Reduction with an Approved CAP

- Approach:
  - Review the core inspection procedures (IPs) and identify inspection requirements that focus on programmatic areas.
  - Given that an effective licensee CAP should be able to adequately oversee programmatic areas, these types of core inspection requirements could be removed (i.e., more performance-based.)
  - Depending upon the specific core inspection requirements that could be removed, the inspection frequency may be reduced and/or the inspection time on site reduced.

Core Inspection Resource Reduction with an Approved CAP

- Example:
- IP 88030, "Radiation Protection, Appendix A, Program, Monitoring, and Controls."
  - Performs a review of:
    - Organizational changes
    - Training
    - Procedures
- An effective licensee CAP could be used to monitor these program requirements and the NRC inspection could focus on performance based implementation of the radiation program (e.g. Radiation Work Permits, Surveys, Access Control, etc.)

Core Inspection Resource Reduction with an Approved CAP

- During every inspection, a CAP sample would be inspected to ensure the CAP is being implemented properly and performing as designed.
- IP 88161, "CAP Implementation at Fuel Cycle Facilities" is a 90-hour inspection conducted after the license amendment and safety evaluation review process.
- IP 88161 could be implemented on a periodic basis (e.g., biennial, triennial) or on an as needed basis (e.g., dependent upon recurring issues with the CAP in other inspection areas.)

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Summary

- The staff has made progress on:
  - The SDP framework and cornerstone-specific tools.
  - Developing an approach to reducing core inspection resources for facilities with an approved CAP.
- The staff will continue to engage with internal and external stakeholders in RFCOP efforts.
- Plans and/or goals for the next public meeting on RFCOP?

Questions???

Questions???

Background Slide

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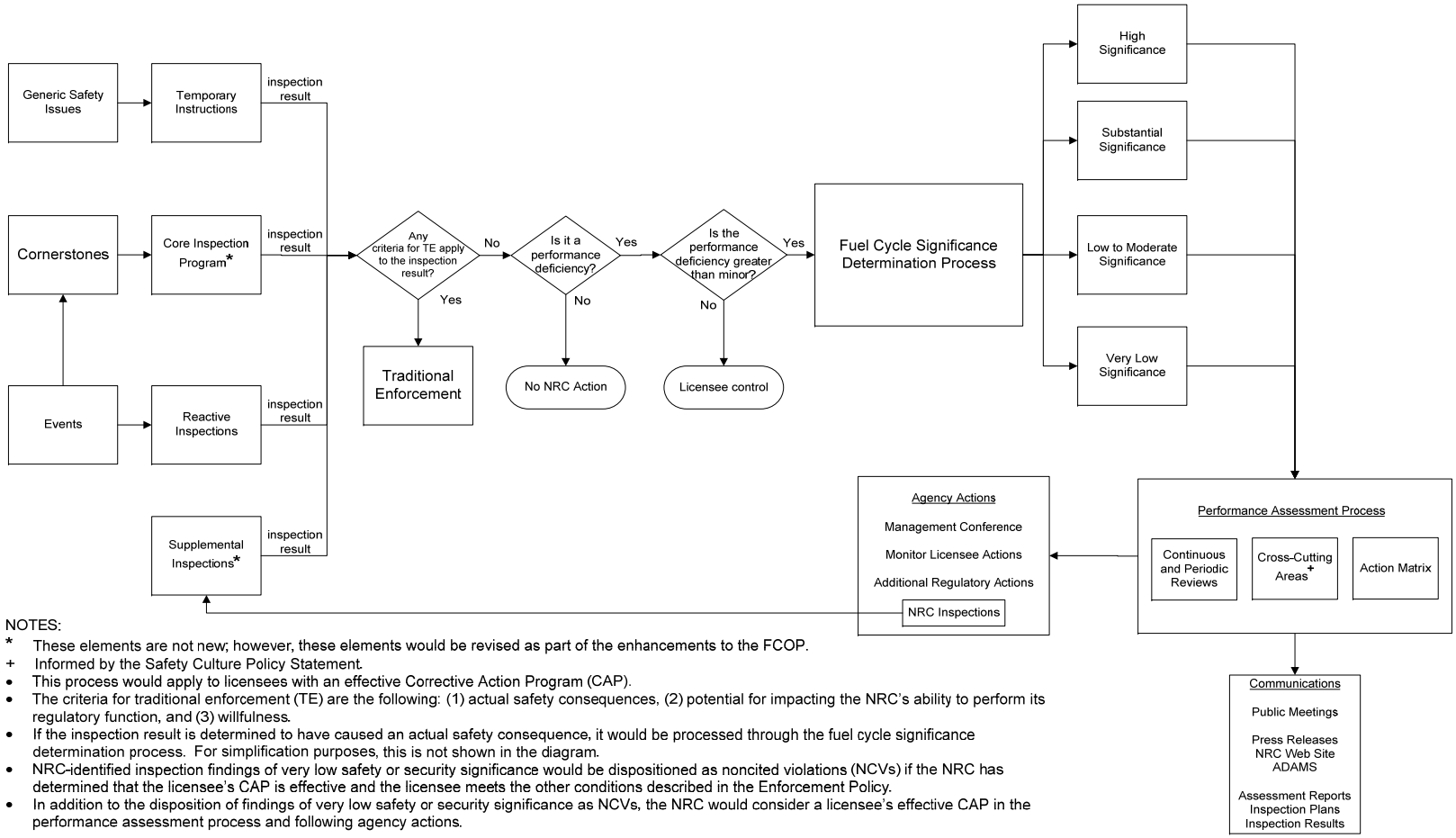
Detailed Conceptual Diagram



NOTES:

* These elements are not new; however, these elements would be revised as part of the enhancements to the FCOP.

\+ Informed by the Safety Culture Policy Statement.

- This process would apply to licensees with an effective Corrective Action Program (CAP).
- The criteria for traditional enforcement (TE) are the following: (1) actual safety consequences, (2) potential for impacting the NRC's ability to perform its regulatory function, and (3) willfulness.
- If the inspection result is determined to have caused an actual safety consequence, it would be processed through the fuel cycle significance determination process. For simplification purposes, this is not shown in the diagram.
- NRC-identified inspection findings of very low safety or security significance would be dispositioned as noncited violations (NCVs) if the NRC has determined that the licensee's CAP is effective and the licensee meets the other conditions described in the Enforcement Policy.
- In addition to the disposition of findings of very low safety or security significance as NCVs, the NRC would consider a licensee's effective CAP in the performance assessment process and following agency actions.