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Streamlining the Significance Determination Process

NRC Public Meeting with Industry

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Agenda

- Discuss current state of the Significance Determination Process (SDP)
- Solicit feedback from industry on ways to improve the SDP for the reactor safety cornerstones
- Discuss the proposed pilot activity
- Questions and answers with the public

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SDP Objectives

- Characterize safety or security significance of inspection findings using best available risk insights, as appropriate.
- Provide stakeholders an objective and common framework for communicating potential safety or security significance of inspection findings.
- Provide basis for timely assessment and/or enforcement actions associated with inspection findings.

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Background

- NRC internal assessment activities
  - -ROP Independent Assessment
  - -Business Process Improvement
- Interactions with the NRC Commission
- Resources study
- Input from internal stakeholders
- Project Aim

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What's the Problem?

NRC is taking too long and using too many resources to determine the significance of greater than Green (GTG) inspection findings for the reactor safety cornerstones.

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Taking into account the objectives of the SDP, the process and its implementation need to be re-examined for effectiveness and efficiency.

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What is Risk-informed (1)

An approach to regulatory decision-making that considers insights from probabilistic risk assessment along with other engineering inputs.

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What is Risk-informed (2)

Risk-informed regulation is a philosophy whereby risk insights are considered together with other factors to establish requirements that better focus licensee and regulatory attention on design and operational issues commensurate with their importance to health and safety.

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Other Factors…

- Traditional factors from Reg. Guide 1.174
  - Defense-in-depth
  - Safety margin
  - Regulatory implications
  - Performance monitoring
- What other decision-making factors are important for regulatory oversight of nuclear power?

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SDP Timeliness = 90 days

- Why 90 days and why is timeliness important?
- Average time to inspect and reach final SDP decision on GTG issues = 276 days!
- What's causing these delays?
- Internal NRC "front end" metric being developed to monitor inspection and initial SDP analysis time.

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Although the focus of discussion today is SDP, the time for NRC to make decisions on inspection (front end) and assessment (back end) needs to be considered.

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SDP Delays

- Achieving a highly defendable “accurate” PRA point estimate
- Complicated issues…?
- Hesitancy to be challenged
- Decision makers needing a “number”
- Not using currently available information
- Interactions with licensees
- Using PRA beyond its limitations

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NRC SDP Resources

- Increasing trend in resources since 2001
- Resources do not track well to number of inspection findings
- Deterministic SDP's (EP, Security, RP) use considerably less resources

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The Challenge…

How to build and implement an SDP process that is both efficient and effective and ensure NRC remains reasonably objective, repeatable and scrutable.

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Possible Streamlining Solutions (1)

- Use a modified decision-making model that takes into account other important decision-making factors.
- Modify SDP timeliness metric start time.
- Formally notify licensees sooner for GTG findings giving a definite time to respond.
- Identify issues not amenable to use of PRA.

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Possible Streamlining Solutions (2)

- Improve exchange of information both internally and externally.
- Manage inspection findings more effectively.
- Document findings more efficiently.
- Develop better SDP screening tools.

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Final Thoughts…

- NRC is expending too many resources and taking too much time to make decisions for licensee performance deficiencies.
- SDP is intended to be a risk-informed process.
- SDP must use best and currently available information.
- A more integrated risk-informed approach to decision-making is needed.
- More structure needed for licensee interactions.

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Discussion

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Brainstorm SDP Enhancements with Industry

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Designing a Pilot

- Goal is to begin pilot in April or May 2016 ending in December.
- All licensees are envisioned to be involved.
- Only the reactor safety cornerstones would be affected.
- Desire to run a “live” pilot.
- Also considering some form of table top.

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Question and Answer Period

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References

- Reactor Oversight Process Independent Assessment (ML14035A571)
- Process Improvement Review of the Significance Determination Process (ML 14318A512)
- COMSECY-14-0030 – Proposed Suspension of the Reactor Oversight Process (ML14168A532)
- Staff Requirements - COMSECY - 14-0030 - Proposed Suspension of the Reactor oversight Process Self-Assessment for Calendar Year 2014 (ML14262A708)
- SRM M150806B – Strategic Programmatic Overview of the Operating Reactors Business Line (ML15231A108)