Proposed Revision to the Standard Review Plan for the Review of a License Application for a Fuel Cycle Facility

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Fuel Cycle Information Exchange 2009

Purpose of Standard Review Plan

- The principal purpose of the SRP is to ensure the *quality and uniformity of the reviews* conducted by the staff of the Office of Nuclear Material Safety and Safeguards.
- SRP also serves to make information about regulatory matters widely available and to improve communication.
- Increases understanding of the review process.

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What topics are covered in the Standard Review Plan (NUREG 1520)?

- The areas in NRC's safety review including:
  - general information
  - organization and administration
  - ISA and ISA Summary
  - radiation protection
  - nuclear criticality safety
  - chemical process safety
  - fire safety
  - emergency management
  - environmental protection
  - decommissioning
  - management measures
  - materials control and accountability
  - physical protection

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Update of NUREG 1520 SRP

- Focused on providing a guidance document that is clear and consistent with the agency positions that support compliance with current regulations.
- A special emphasis on incorporation of lessons learned from experience gained since initial issuance of SRP.
- Address the issue of the level of detail needed for fuel cycle licensing reviews, especially for new facilities and processes, and to support licensing inspections for operation readiness reviews (ORR) performed by regional inspectors.

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SRP Level of Detail

- The SRP is written to suggest that the level of detail for a new facility application would be at a time when the design was finalized
- Regulation allows an application that evaluates conceptual designs with target reliabilities and effectiveness based on commitments to codes and standards and management measures yet to be fully defined
- Operational Readiness Reviews confirm facility constructed as licensed
- SRP revision to address this issue

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Change Summary

- Improve linkage of review content to regulatory requirements
- Address Level of Detail Issue
- Incorporate Interim Staff Guidance positions and update references
- Incorporate Lessons Learned from licensing experience and provide technical clarifications
- Reformatting of chapters for consistency with NUREG format
- Added a new subsection: “Review Interfaces”

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Planned Interactions

- Web pages
  - Proposed revision available in the Agencywide Documents Access and Management System (ADAMS): http://www.nrc.gov/reading-rm/adams.html
  - July 2009—draft will be available in the NRC Electronic Reading Room under "Draft NUREG-Series Publications for Comments" http://www.nrc.gov/reading-rm/doc-collections/nuregs/docs4comment.html
  - NUREG1520 Website: http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1520/

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Planned Interactions

- July/Aug 2009—Public Meeting
- November 2009— Staff presentation to ACRS

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Schedule

- Summer 2009:
  - Proposed Revision of SRP publicly available.
  - Public Meeting to discuss proposed changes to the SRP
  - Federal Register Notice to Publish Draft Revision for Public Comment
- Fall 2009:
  - Resolution of Public Comments (typically 30 day period)
  - Interact with ACRS and CRGR
- 2010:
  - Publish the final SRP (Expected date: January 2010).

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Summary

- No new technical positions, no new staff positions
- Level of detail required better aligned with 10 CFR Part 70
- Better linkage between review sections and the regulations
- Incorporates previously established Interim Staff Guidance positions

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Chapter 3: ISA & ISA Summary

- Revisions to Chapter 3 include:
  - Provided additional guidance more directly applicable for licensing of new facilities, as opposed to facilities that were constructed/licensed prior to the Subpart H revision of 10 CFR 70 requiring ISAs (current version of NUREG-1520 is focused primarily on existing facilities).
  - Provided additional guidance on the extent to which the review and approval is programmatic, as opposed to a design review.

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Chapter 3: ISA & ISA Summary (cont'd)

- Provided additional guidance on what constitutes an acceptable "level-of-detail" for descriptions of facility processes and Items Relied on for Safety, sufficient for licensing approval.

- Provided additional descriptive examples of acceptable methods for evaluating likelihood. Revision is consistent with guidance on this subject for materials and waste applications developed subsequent to promulgation of 10 CFR 70 Subpart H.

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Chapter 3: ISA & ISA Summary (cont'd)

- Added New Appendices to incorporate ISGs and provide more detailed methodology explanations
  - Annex to Appendix A: Use of Appendix A Risk Index Methodology
  - Appendix B: Qualitative Criteria for Evaluation of Likelihood (ISG-1)
  - Appendix C: Initiating Event Frequency (ISG-9)
  - Appendix D: Natural Phenomena Hazards (ISG-8)
  - Annex to Appendix D: Example of Natural Phenomena Hazard Review for Compliance with 10 CFR 70.61.

Chapter 4: Radiation Safety

- Revisions to Chapter 4 include:
  - Addition of Section 4.4.8 “Control of Radiological Risk Resulting from Accidents”
    - Addresses the need for additional clarification regarding ISA Summary review
    - Formally incorporate draft ISG-2 (Accident Sequences That Result in Consequences Below 10 CFR 70.61 Performance Requirements) relevant to RP

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Chapter 5: Criticality

- Revisions to Chapter 5 include:
  - Expanded discussions of Nuclear Criticality Safety Program
  - Expanded discussion of code validation
  - Provided additional pointers to other SRP chapters for guidance
  - Provided reference to discussions on level of detail, reasonable assurance and the role of the ORR.
- New Appendix
  - Incorporated ISG-03: Nuclear Criticality Safety Performance Requirements, and description of Double Contingency Principle

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Chapter 6: Chemical Safety

- Revisions to Chapter 6 include:
  - Clarification/reference of regulatory requirements to review content.
  - The areas of review were divided in the following subsections:
    - Chemical process description
    - Chemical accident sequences
    - Chemical accident consequences
    - Chemical process IROFS and sole IROFS
    - Chemical process management measures

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Chapter 7: Fire Safety

- Revisions to Chapter 7 include:
  - Addition of a subsection to section 7.4.3.2 regarding deviations from NFPA codes and standards and added clarification concerning the “authority having jurisdiction” (AHJ).
  - Section 7.4.3.3 rewritten to incorporate a listing of specific information likely to be required for the staff to review the fire safety aspects of the facility design.
  - Section 7.4.3.4 modified to include criteria for ISA review of fire initiated accident sequences and associated IROFS and management measures.
  - Added wording to provide example findings to reflect wording of recent staff SERs.

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Chapter 9: Environmental Protection

- Revisions to Chapter 9 include:
  - Removal of almost all details about NEPA reviews and preparation of EAs and EISs since they are addressed in detail in NUREG-1748, Environmental Review Guidance for Licensing Actions Associated with NMSS Programs.
  - Added more detailed language for different categorical exclusions that we use most often.

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Chapter 10: Decommissioning

- Revisions to Chapter 10 include:
  - Addition of information regarding conceptual decontamination plan, decommissioning costs and financial assurance.
  - Addition of information regarding record keeping requirements.

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Questions?

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