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Compliance with 10 CFR 20.1406 for New Reactors

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Background

- 10 CFR 20.1406, "Minimization of Contamination"
  - "(a) Applicants for licenses…after August 20, 1997, shall describe in the application how facility design and procedures for operation will minimize, to the extent practicable, contamination of the facility and the environment, facilitate eventual decommissioning, and minimize, to the extent practicable, the generation of radioactive waste".
  - "(b) Applicants for standard design certifications...after August 20, 1997, shall describe in the application how facility design will minimize,…"
- Regulatory guidance not developed in time to support issuance of rule
- Applies to several SRP chapters, including chapters 2, 9, 10, 11, 12, and 13
- Draft Guide 4012, "Minimization of Contamination and Radioactive Waste Generation – Life Cycle Planning"
  - ACNW, public meetings and industry comments considered and incorporated where appropriate

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Status

- RG 4.21 (DG 4012) to be issued in June of 2008
- CHPB preparing a RAI to require DC applicants to address compliance with 20.1406 in all appropriate chapters of the application, using RG 4.21 as guidance
- Response to this RAI will not be expected until after RG 4.21 is issued as final.

NRC Actions

- Conduct awareness training for NRO PMs, tech reviewers and Branch Chiefs
- CHPB to develop interim staff guidance on 10 CFR 20.1406
- Revise the SRP sections affected (2, 9, 10, 11, 12 and 13)
- Section 12.3 of the SRP will be revised to include 20.1406 discussion

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20.1406 CHPB RAI

- DC applicant should discuss compliance with the design and operational objectives contained in the Regulatory Position section of RG 4.21
  - Provide this information in Section 12 of the FSAR.
  - COL action items for operational objectives should be located in the appropriate FSAR section.
- DC applicant should describe specific design features which demonstrate compliance.
  - Technical detail should be provided in the applicable FSAR sections (2, 9, 10, 11, 12 or 13).
  - Section 12 should have pointers to this information.
  - Appendix A of RG 4.21 contains examples of measures that might be taken to address the requirements of 10 CFR 20.1406 (these examples were formally located in Part C of DG 4012, “Regulatory Position.”)

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Minimization of Contamination and Radioactive Waste Objectives

- Minimize leaks and spills and provide containment of leaks
- Provide for adequate leak detection capability to provide prompt detection of leakage from any SSC
- Provide Leak detection methods capable of early detection of leaks where regular inspections are impossible/difficult
- Decrease the probability of any release, any amounts released, and decrease spread of contaminant from source
- Minimize the use of embedded or buried piping and facilitate the removal of large components
- Minimize the volume of SSCs that become contaminated

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Minimization of Contamination and Radioactive Waste Objectives (cont)

- Periodic review of operational practices
- Facilitate decommissioning by maintaining complete records
- Develop a conceptual site model (based on site characterization and facility design and construction)
- Evaluate the final site configuration after construction to assist in preventing the migration of radio-nuclides offsite via unmonitored pathways