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UNITED STATES NUCLEAR REGULATORY COMMISSION

Protecting People and the Environment

Highlights and Insights

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RETS-REMP Workshop

Oak Brooks, IL

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Outline

- Decommissioning Planning Rule
- Potential Rulemaking – 40CFR190 & Remediation
- ICRP-103
- Japan
- Cancer Study
- NRC Groundwater Task Force, SECYs and Papers
- Summary Report – GW Temporary Instruction
- NRC Effluent Summary Report (& Data Base)
- Annual RETS/REMP Reports – Doses & GW Data
- C-14 Reporting

Acronyms

LLD = Lower Limit of Detection

GW = Groundwater

GAO = General Accountability Office

ARERR = Annual Radioactive Effluent Release Report

AREOR = Annual Radiological Environmental Operating Report

SBO = Station Blackout

SECY = Issue papers submitted to NRC Commissioners

SRM = NRC Staff Requirements Memorandum

S/G = Steam Generator

C-14 = Carbon-14



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Decomm Planning Rule

- Final regulation published at 76 FR 35512
- Applies to all licensed facilities
- Primarily for financial assurance
- Includes
 - GW Monitoring (change to 10CFR20.1501)
 - Minimization of contamination
- Effective date is 18 months, ~ December 2012
- No change in decommissioning funding requirements for nuclear plants



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Decomm Planning Rule

- New Requirements
 - 10 CFR 20.1406, minimize contamination
 - 10 CFR 20.1501(a), perform subsurface surveys
 - 10 CFR 20.1501(b), records for decomm.
- Scoping Surveys
 - Used to identify significant residual radioactivity
 - Existing ground water monitoring wells are generally adequate for scoping surveys



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Decomm Planning Rule

- Draft Regulatory Guide DG-4014
 - to be distributed for comment ~ mid-September
 - 60 day comment period
- Public workshop ~ Oct 2011, stakeholder feedback
- Financial assurance guidance in NUREG-1757
 - Volume 3, currently Rev 0
 - Contains details for contents of decomm. file
 - Rev 1, release schedule is similar to DG-4014

Decomm Planning Rule

- Significant residual radioactivity
 - Levels that will require remediation (at time of license termination) to meet unrestricted release criteria of 25 mrem/yr
 - How do you know? – Look at reference points:
 - Screening criteria in NUREG-1757, Decommissioning Guidance, Vol 2, App H
 - e.g., 110 pCi/gm H-3 in soil
 - 10 CFR 20 App B (1E6 pCi/l)
 - <http://www.nrc.gov/about-nrc/regulatory/decommissioning/reg-guides-comm/guidance.html>

- In approving Decomm Planning Rule, Commission required staff to “make further improvements”
- NRC staff are developing a technical basis for rulemaking related to mandated remediation
- NRC is seeking stakeholder input
- Public webinar, July 25
- Public meeting on potential remediation rule to discuss:
 - Should remediation during operations be req’d
 - If so, what criteria



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EPA 40 CFR 190

- EPA is Considering Proposed Rulemaking on 40 CFR 190
- Technical Considerations
 - GW Protection
 - Dose Issues (ICRP-2 vs ICRP-103)
 - Interim storage of spent fuel
- Potential future impact on 10 CFR 20.1301(e)

Cancer Study

- NRC is funding National Academy of Science (NAS)
- Update of 1990 National Cancer Institute cancer mortality study
- Evaluate populations around nuclear facilities
- Includes morbidity — not just mortality
- Areas smaller than counties
- Phase 1 scoping study (Sep to Dec 2011)
- Looking at effluent data (ARERR and AREOR)
- NAS visits to Dresden and San Onofre



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Japan Update

- NRC presence in Tokyo since March
- NRC is evaluating SBO
- Several international studies published
- Liquid Releases to Ocean
- Gaseous Releases
- US REMP Samples
 - Almost all US REMPs detected low I-131
 - Generally from 0.01 pCi/m³ to 0.25 pCi/m³
 - Some results up to ~1 pCi/m³



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ICRP-103

- NRC evaluating upgrading from ICRP-2 & ICRP-26
- Series of Public Meetings were held
- NRC is evaluating potential changes:
 - ICRP-2 to ICRP 26/30, 60/72, 103/TBD
- May impact 10 CFR 50
- Long-term project

- Second NRC Task Force on GW
- Published Report Jun-2010 (ML101680435)
- Review by NRC Management
- Public Meetings (4-Oct-10, 24-Feb-11)
- SECY-11-0019 (ML110050525) and Memo to Commission (ML110050252)
- Many actions listed (in SECY and Memo)
- Commission is evaluating identified actions in SECY
- Commission to issue SRM on SECY

- NRC Inspectors visited each site 2008-2010
- Evaluated tasks in NEI 07-07
- Summary Report was issued April 2011
- About 60% of sites implemented all elements
- 40% of sites had not implemented all elements
- Best in recordkeeping (50.75g) and Annual Reports
- Most Opportunities in Remediation, Site Assessments, Stakeholder Briefings
- Ranking of “Readiness Potential”
- Future TI on NEI 07-07 to close gaps



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ARERR – Dose Reporting

- NRC issued Annual Effluent Summary Reports
- Found opportunities in dose reporting
- If 2-Unit facility, make doses clear
- If 2-Units, make design objectives clear
- Dose is X in one part of report and Y elsewhere
- Sometimes says Unit 1 dose when dose for 2 units
- Clearly delineate Annual TB Dose and Organ Dose
- Included in NRC Annual Effluent Summary Reports



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ARERR – GW Results

- Generally good reporting of results
- GW results are used by stakeholders
- NRC updates the list of leaks and spills twice/year
- Some GW results are not being reported
- Delineation of GWMP samples, REMP samples, and other samples can introduce confusion
 - Example, one site indicated highest H-3 was X, when in fact X was highest GWMP sample

NRC Annual Effluent Summary Reports

- 2007 and 2008 NRC Summary Reports are done
- 2009 NRC Effluent Summary Report (~Aug 2011)
- Entering 2010 effluent data into database soon
- 2010 NRC Effluent Summary Report (~Dec 2011)
- NRC Effluent data base, can query
- http://www.reirs.com/effluent/EDB_Main.asp
- Limited query ability
- Possibility of automatic entry of data

- Many ARERRs containing C-14 info were reviewed
- Data is being evaluated by NRC
- Reported C-14 doses vary (~0.01 to 5 mrem)
- The initial objective = meet 50.36a requirements
- Integration of C-14 data into ARERRs varies
 - Some licensees add to nuclide tables
 - Some licensee report C-14 separately

Other Trends & Items

- NRC addressed Ba/La-140 Env LLDs last year
- I-131 LLDs
- Issues with radiation monitors
- Some deficiencies during recent inspections may be caused by loss of knowledge due to personnel leaving RETS-REMP (retirements...)
- S/G Storage Buildings and Tritium
- Buried Pipe TI

Questions

