

“The License Termination Rule - 15 Years of Regulatory Decommissioning Experience”

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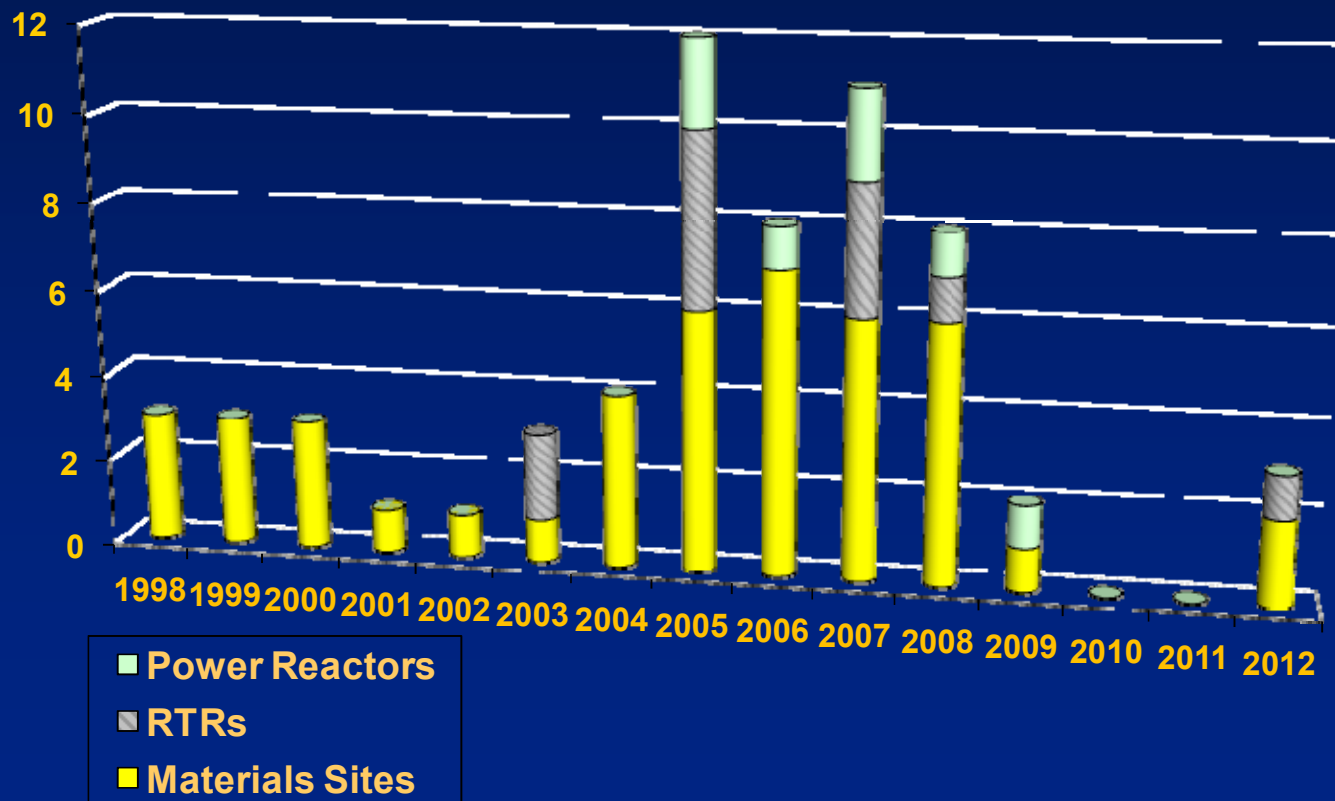
Topics of Discussion

- Regulatory History
- Current Topics
 - ✓ Release of Materials
 - ✓ Qualifications
 - ✓ Communications
 - ✓ Decommissioning Funding
 - ✓ Rule Making and Guidance

Regulatory History

- 1997 – License Termination Rule issued
- 2003 - NUREG 1757, ‘Consolidated Decommissioning Guidance’
- 2005 - SECY 05-0054 re-affirming policy on release of materials

Complex Site Terminations





NRC Policy Release of Materials - SECY-05-0054

- Staff to continue to review specific cases on an individual basis
- Current approach is fully protective of public health and safety
- A rule is not immediately needed

Release of Materials: Current Approach

Surface residual radioactivity: Sources may include metal, equipment, tools, furniture

- Reactor licensees: “No Detect” policy of I&E Circular 81-07 and Information Notices 85-92 and 88-22
- Materials licensees: Regulatory Guide 1.86 and its equivalent Directive Guidance Fuel Cycle 83-23

Release of Materials: Current Approach

Volumetric residual radioactivity: Sources may include concrete, soil, debris etc.

- May be approved under 20.2002 request, license termination or decommissioning plan, or other specific license amendment
- To maintain doses ALARA and below the limits in Part 20, there may be approval of a release under a criterion of a “few mrem”
- For reactors, releases made using “no detect” policy

Release of Materials: 2000 - 2012

33 Submittals for §20.2002 Requests

- 21 of 33 §20.2002 requests have been approved, 2 pending
 - ✓ (7) Local landfill disposals
 - ✓ (8) RCRA disposal sites
 - ✓ (3) Onsite disposals
 - ✓ (3) other
- 10 requests were withdrawn
 - (4) Decided to send to Low Level Waste sites
 - (6) Variety of reasons

Experience: § 20.2002 Requests

- Failure to recognize variability of Hard-To-Detect Nuclides driving the dose
- Inadequate QA/QC of the material prior to transport
- Licensee management decision

Communications

- NRC Project Manager is the Principal Point of Contact
- Periodic Management Meetings may be necessary
- Commission Drop-in Visits

Decommissioning Qualifications and Experience

- Project Management
- Key Technical Managers
- Health Physics Technicians and Programs

Health Physics Qualifications

- Radiation Safety Officer qualifications and experience
- Unqualified individuals performing release surveys
- Untrained individuals performing release surveys

Radiological Survey Programs

- Inappropriate survey instruments for release measurements/personnel
- Non-conservative instrument efficiencies for release measurements
- Failure to employ ISO 7503 standards for efficiencies resulted in under estimating activity

Radiological Survey Programs

- Scan surveys procedures do not meet required Scan MDC requirements
- Failure to survey equipment internals
- Portable Gamma Spec (GeLi) System issues
 - inappropriate geometries
 - inadequate detection requirements
 - failure to recognize system degradation

Rad Program: Surrogate Nuclides

- Inappropriate use of Gamma measurements for HTDs where no surrogate relationship is not statistical viable or justified
- Failure to recognize variability in HTDs to determine sampling requirements
- Failure to perform ongoing QA measurements to ensure surrogate ratio remains conservative

Rad Program: Composite Sampling

- Reduces action (investigation) levels (DCGL_w) by the dilution factor
- Cannot be used when action levels (DCGL_w) are near the analytical detection limits
- Cannot be used when action levels (DCGL_w) are near the natural background concentration

Decommissioning Funding

- NUREG 1757 Volume 3 “Financial Assurance” - Revision 1
- Merchant Plants
- New Decommissioning Approaches – Zion

NRC Rule Making and Guidance

- Decommissioning Planning Rule
- Prompt Remediation
- 7 Decommissioning Regulatory Guides have been updated

Decommissioning Guidance and Tools

- MARSSIM (NUREG 1575)
- MARSAME (NUREG)
- SRP for Power Rx LTPs (NUREG 1700)
- SRP For RTRs (NUREG 1537)
- PNNL's Visual Sample Plan
- ANL's RESRAD
- MIL-DOSE AREA

NRC Rule Making and Guidance

NUREG 1757

“Consolidated Decommissioning Guidance”

- Volume 3 Financial Assurance - issued
- New Volume 4: Uranium Recovery
- Volume 2: revision in progress
 - ✓ ALARA
 - ✓ Composite sampling
 - ✓ Restricted Use

Conclusions

- The License Termination Rule is flexible
- NRC Staff has concerns about qualifications and technical competency
- Decommissioning funding is essential
- Decommissioning Rulemakings are targeted to prevent future legacy sites
- NRC decommissioning guidance has been consistent , informative and evolving

Present Decommissioning Sites

- 12 Power & 2 Early Demonstration reactors
- 11 Test, Training, & Research reactors
- 21 Complex Materials sites
- West Valley Demonstration Project
- 21 Title I & 11 Title II UMTRCA sites
- 6 Title II sites that have transferred to DOE

Thank You!