

December 23, 1999

MEMORANDUM TO: Samuel J. Collins, Director
Office of Nuclear Reactor Regulation

THRU: Brian W. Sheron, Associate Director for
Project Licensing and Technical Analysis
Office of Nuclear Reactor Regulation

ORIGINAL SIGNED BY

FROM: John A. Zwolinski, Director
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

ORIGINAL SIGNED BY
SUZANNE BLACK

SUBJECT: TRIP REPORT ON ATTENDANCE AT OCTOBER 18-19, 1999,
DECOMMISSIONING PLANNING AND TECHNOLOGY FORUM IN
PORTLAND, MAINE

On October 18-19, 1999, several Nuclear Regulatory Commission (NRC) representatives made presentations at a power reactor decommissioning conference co-sponsored by the Nuclear Energy Institute and the Electric Power Research Institute. You gave a presentation on the past, present and future of reactor decommissioning requirements. Stu Richards spoke about NRC plans for decommissioning regulatory improvement. Rich Barrett spoke about NRC efforts to develop a risk-informed basis for decommissioning exemption guidance. Bill Brach spoke about NRC activities related to dry-cask spent fuel storage. John Greeves spoke about license termination issues. Margaret Federline spoke about entombment as a decommissioning option. Larry Camper spoke about regulatory control of solid materials and NRC criteria for unrestricted release. Copies of the slides used for these presentations are attached.

Attachments: As stated (8)
cc w/atts: See next page

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*SEE PREVIOUS CONCURRENCE

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*United States
Nuclear Regulatory Commission*

Reactor Decommissioning: Past, Present, and Future

Decommissioning Planning & Technology Forum
Portland, Maine
October 18, 1999

Samuel J. Collins, Director
Office of Nuclear Reactor Regulation

Past

1988 - Comprehensive decommissioning rules issued

- Licensees must submit decommissioning plans; NRC review and approval required before decommissioning starts
- Prematurely shutdown plants (plants shutting down unexpectedly before license expires) were not efficiently handled by 1988 rules
 - Decommissioning plans submitted 12 to 24 months after shutdown
 - NRC review of decommissioning plans took 18 to 24 months
- Hearing opportunities
 - License amendment submitted to possess but not operate facility
 - Decommissioning plan submitted for approval

Impact of 1988 rules

- For prematurely shutdown plants, 1988 rules caused long delays (2.5 - 4 years) before decommissioning could begin
- When licensees needed to depart from NRC-approved process in decommissioning plan, NRC review of changes might be required
- Many plant-specific exemptions from NRC regulations were needed throughout the process
- Hearing requests caused long and costly delays to decommissioning process

Present

- Decommissioning rule changes in 1996 resulted in the present regulatory climate
- Decommissioning plans not required to be prepared or reviewed and approved
 - Decommissioning activities may now progress promptly under 10 CFR 50.59 without NRC review and approval
- Public involvement process specified in 1996 rules
 - Early public meetings to inform local residents
 - Hearing opportunities specified by regulations at the license termination stage
- Fewer exemption requests required due to rule changes in 1996 to clarify non-applicability of certain regulations:
 - Containment leak testing, decommissioning funding, environmental qualification of electrical equipment, hydrogen control, ECCS requirements, fracture toughness requirements, and ATWS requirements

Future

- Risk-informed, integrated rulemaking effort to specify proper requirements for decommissioning plants in areas of emergency preparedness, security/safeguards, insurance, operator staffing/training, and backfit rule
- Regulatory Improvement Initiative to include comprehensive review of all NRC regulations for applicability to decommissioning power reactors
 - Rules to be clarified or modified as necessary to properly address decommissioning
 - Staff intends to relocate most decommissioning rules to a dedicated part of Title of the Code of Federal Regulations for easier identification of applicable requirements in the future

Decommissioning Challenges

- Assurance of Decommissioning Funds in a Competitive Market
- EPA vs NRC Release Criteria
- Issuance of Regulatory Guidance
- Dose Modeling Guidance
- Clearance Rule
- Restricted Release Cases
- Develop change procedures for NRC approved LTPs
- Develop regulatory framework for partial release of power reactor sites
- Addressing unique proposals by licensees
- Finality of Decisions

Ongoing NRR Initiatives Beyond Decommissioning

- Reactor Oversight Program Improvements/Pilot
- Risk Informing Part 50
- Specific Risk-Informed Applications (ISI, IST, TSs)
- Y2K
- Improved STS
- Licensing Basis Definitions/Controls (50.59, FSAR, Commitments)
- License Renewal
- Improving NRR Planning, Budgeting, and Performance Monitoring

How Industry Can Help To Achieve Mutual Goals

- Involvement of operating reactor utilities in decommissioning rulemaking process. **DON'T WAIT UNTIL SHUTDOWN.**
- Recognize that NRC resources still assigned on basis of risk and that operating reactors are **FIRST** Priority; however, decommissioning has received increased attention.
- Recognize the public as a legitimate stakeholder in developing the decommissioning process and help facilitate public involvement
- Industry take the lead in providing the technical basis for policy

Regulatory Improvement for Decommissioning Plants



October 18, 1999

**Stuart Richards, Director
Project Directorate IV &
Decommissioning
Office of Nuclear Reactor Regulation**

Introduction

- ◆ **Background of decommissioning issues**
- ◆ **Overview of SECY-99-168**
- ◆ **Technical Working Group (TWG) Effort**
- ◆ **Integrated Decommissioning Rulemaking Effort**
- ◆ **Regulatory Improvement Initiative**

Decommissioning Background

- ◆ **Most NRC Part 50 regulations were not developed considering the transition from power operations to decommissioning**
- ◆ **Staff intends to resolve this situation by issuing risk-informed rules for decommissioning**
- ◆ **Staff must consider spent fuel pool accident risks when deciding how to revise requirements**
- ◆ **SECY-99-168 requested Commission approval of a two-part process and schedule to improve regulations for decommissioning plants**
 - ◆ **Integrated decommissioning rulemaking**
 - ◆ **Regulatory improvement initiative**

Integrated Rulemaking Plan

- ◆ **SECY-99-168 requests Commission approval to combine individual rulemakings for EP, Insurance, Safeguards, Operator Staffing & Training, and backfit into a single, integrated package using a risk-informed approach**
- ◆ **The staff is not requesting approval of any technical position or policy matter related to decommissioning regulations**
- ◆ **The process for arriving at a risk-informed technical basis for these rules is proceeding with both industry and public stakeholder issues being considered**
- ◆ **Staff is currently drafting rules that are independent of the spent fuel risk study (Operator staffing & training, Backfit)**
- ◆ **An integrated rulemaking plan is on track for May 31, 2000, pending Commission approval of the SECY-99-168 schedule**

Regulatory Improvement Initiative

This initiative primarily involves developing a new part within Title 10 of the Code of Federal Regulations (CFR) for decommissioning nuclear power plants

- ◆ **The staff will request Commission approval of the long-term schedules and resources when a detailed assessment of this effort is completed**
- ◆ **Staff has performed an initial screening of applicability of Title 10 regulations to decommissioning nuclear power plants and found approximately 40 areas that may need to be amended**
- ◆ **A contract has been recently placed with BNL to perform a more comprehensive review of the regulatory applicability of Title 10**

Regulatory Improvement Initiative

- ◆ **A draft outline of a new part for decommissioning regulations in Title 10 is also underway to provide a placeholder for the relocated regulations being considered**
- ◆ **The staff is moving forward and utilizing resources as available in the decommissioning section to keep this proposal active and ensure rapid progress is made in developing a detailed rulemaking plan once Commission approval is received**

RISK-INFORMED BASIS FOR DECOMMISSIONING EXEMPTION GUIDANCE

Richard J Barrett

U. S. Nuclear Regulatory Commission

**Decommissioning Planning and Technology Forum
Portland, Me.**

October 18, 1999

BACKGROUND

- **Risk due to potential for Zirconium fire in Spent Fuel pool**
- **Deterministic Basis for previous exemptions from emergency planning requirements**
 - **Zirconium fire ruled out**
 - **Sufficient time for ad-hoc protective actions**
- **NRC agreed with industry proposal to pursue a risk-informed approach**
- **Technical working group (TWG) formed in March, 1999**
- **Public meetings and workshops**
 - **June 7, 1999: Presentation of preliminary report**
 - **July 15-16, 1999: Industry and public feedback**

RISK-INFORMED REGULATION

PRA Policy statement: August, 1995

- Use of PRA technology should be increased in all regulatory matters**
- Use within the bounds of the state of the art to reduce unnecessary conservatism**
- To support proposal of additional regulatory requirements**
- PRA evaluations should be as realistic as practical**

Safety principles of Regulatory Guide 1.174; July, 1998

- 1. Meet current regulations unless related to exemption or rule change**
- 2. Consistent with defense-in-depth philosophy**
- 3. Maintain sufficient margin**
- 4. Increases in CDF or risk should be small and consistent with Safety Goal**
- 5. Impact should be monitored using performance measurements.**

PRELIMINARY REPORT

- **OBJECTIVES**
 - **Determine which accident scenarios contribute to risk**
 - **Determine which design and operational features control risk**
- **PRELIMINARY RESULTS: Sequences requiring further analysis**
 - **Long-Term loss of heat removal sequences**
 - **Short term loss of inventory sequences**
 - **Heavy load handling sequences**
 - **Seismic sequences**

FACTORS AFFECTING DECOMMISSIONING RISK

- **Loss of heat removal and loss of inventory events**
 - **Reliability of makeup system**
 - **Human performance**
 - **Role of offsite resources**
- **Heavy load drop sequences**
 - **Frequency of heavy load movements**
 - **Controls over load movements: NUREG-0612 commitments**
- **Seismic sequences**
 - **Seismic hazard**
 - **Pool characteristics: Seismic checklist**

RESULTS OF PRELIMINARY RISK ANALYSIS

- **Fuel uncover frequency not as low as anticipated**
 - **Frequency evenly distributed among initiators**
- **Final results expected to be significantly lower**
 - **Refined analysis**
 - **Industry commitments**
- **Applicability of Reg Guide 1.174 guidelines**
 - **Zirconium fire consequences not comparable to core damage accidents**
 - **Requested exemptions do not necessarily change CDF or LERF**
- **Application to exemption decisions**

OTHER SAFETY PRINCIPLES

- **Defense in depth**
- **Safety margins**
 - **Thermal inertia; time to fuel damage**
 - **Decay of Iodine**
- **Performance monitoring**
 - **Analysis identifies items to monitor**
- **Integrated decisionmaking: Other factors**
 - **Limited window of vulnerability**
 - **Operational complexity**

NEXT STEPS

- **Assess stakeholder feedback** **November, 1999**
 - **Seismic risk analysis**
 - **Review of the draft NRC report**
 - **Technical comments and recommendations**
 - **Seismic checklist**

- **Independent technical quality review** **November, 1999**
 - **Review draft report and stakeholder feedback**
 - **Focus on human reliability analysis**

- **Draft report for comment** **January, 2000**

- **Final report** **April, 2000**

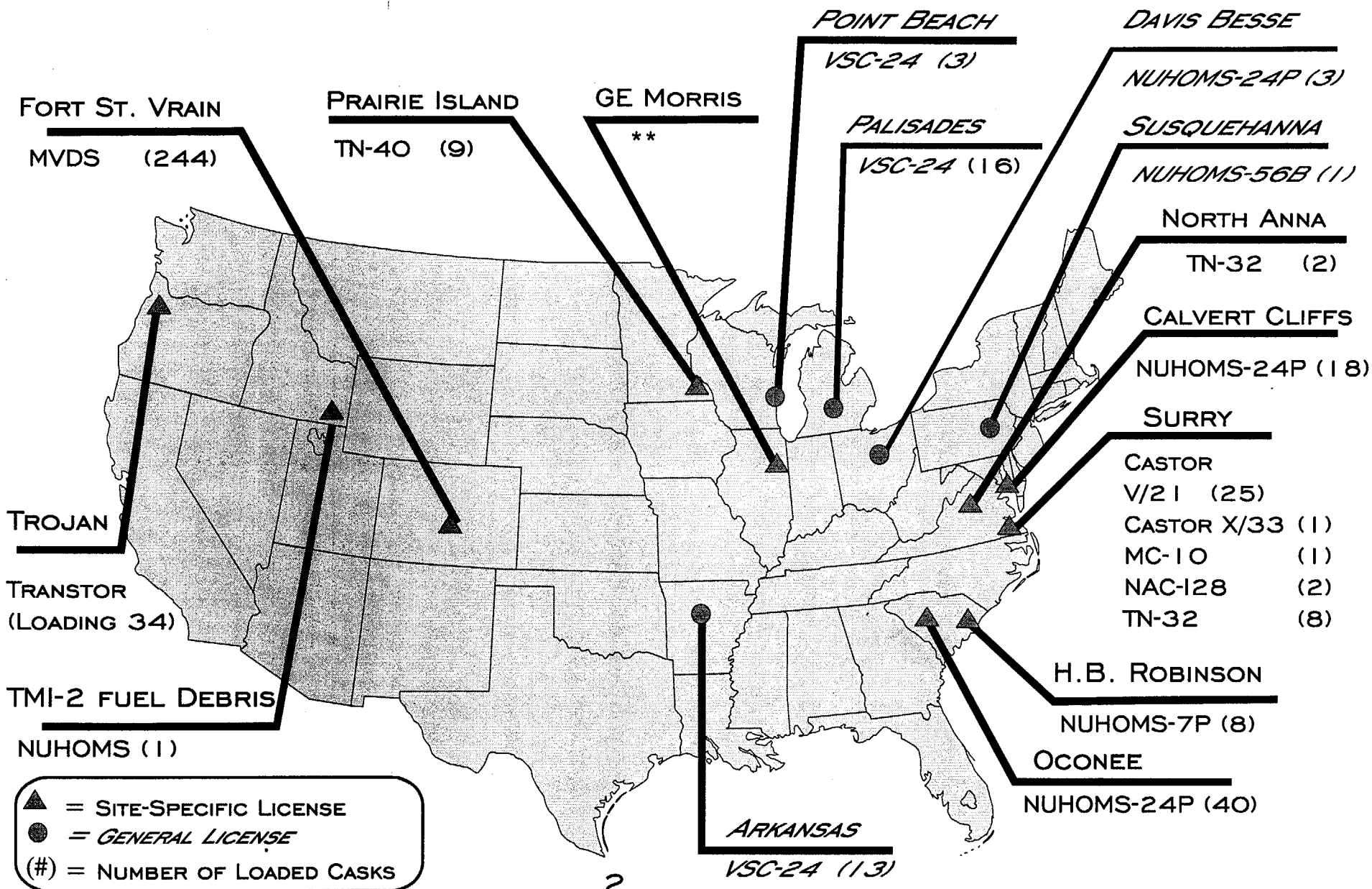
NRC SPENT FUEL ACTIVITIES



E. WILLIAM BRACH, DIRECTOR
SPENT FUEL PROJECT OFFICE

DECOMMISSIONING PLANNING AND TECHNOLOGY FORUM
OCTOBER 18-20, 1999

OPERATING SPENT FUEL STORAGE SITES (ISFSSI)

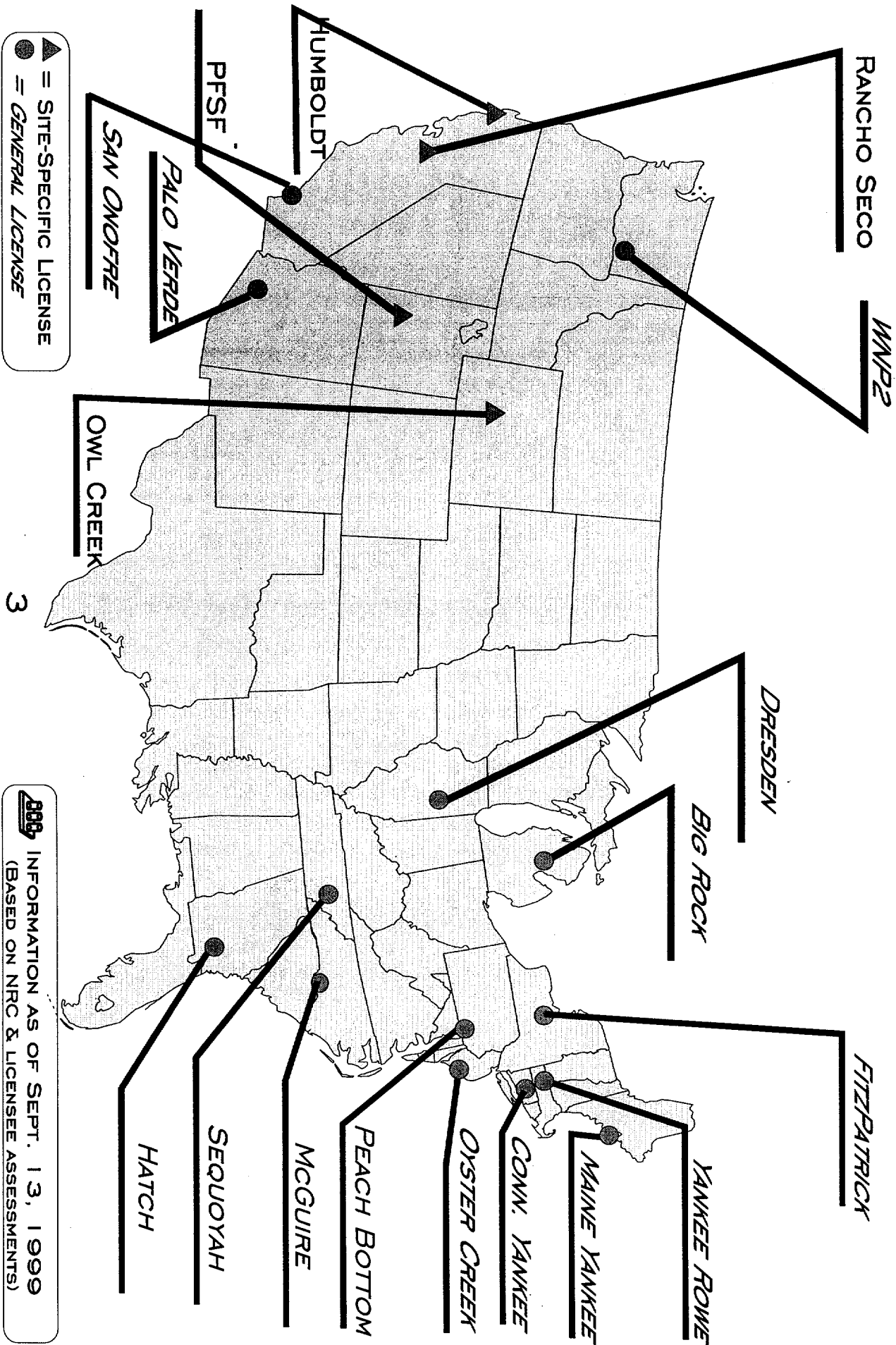


** GE MORRIS USES WET STORAGE



INFORMATION AS OF SEPT. 13, 1999

POTENTIAL NEAR-TERM, NEW ISFSI SITES



SFPO OVERVIEW

- LICENSING APPROACH
 - MAINTAIN SAFETY
 - IMPROVE STAKEHOLDER CONFIDENCE AND INTERACTION
 - IMPROVE EFFECTIVENESS, EFFICIENCY, AND REALISM
 - REDUCE UNNECESSARY REGULATORY BURDEN
 - FOCUS ON OUTREACH, OUTPUTS, AND OUTCOMES
- SFPO CONTINUES ITS INTERACTION WITH STAKEHOLDERS
- SFPO TECHNICAL ISSUES
 - TRANSPORTATION RISK STUDIES AND RISK-INFORMING
10 CFR PART 71
 - BURNUP CREDIT
 - HIGH BURNUP FUEL
 - DRY CASK RISK ASSESSMENT
 - LICENSE RENEWAL BASIS

SFPO OVERVIEW (CONTINUED)

- SFPO DEVELOPED AND IMPLEMENTED:
 - INTERNAL PROCEDURES
 - ▶ STAFF INTERACTIONS WITH APPLICANTS (WITH PRIORITY SCHEMES)
 - ▶ SER FORMAT AND CONTENT
 - ▶ EXPECTATION REGARDING TEAM ACTIVITIES
 - ▶ SFPO REVIEW PHILOSOPHY

 - STANDARD REVIEW PLANS
 - INTERIM STAFF GUIDANCE DOCUMENTS
 - TECHNICAL REVIEW SCHEDULES AND TEMPLATES
 - LESSON LEARNED PROCESS

SFPO OUTREACH

- SFPO CONTINUES ITS INTERACTION WITH THE INDUSTRY, NEI, OWNER'S GROUP, DOE, DOT AND OTHERS
 - GE VALECITOS 10/99
 - MODAL STUDY 11/99 & 12/99
 - ACNW 01/00
 - 50.59/72.48 NEI WORKSHOP 01/00
 - REGULATORY INFORMATION CONFERENCE 03/00
 - NRC/NEI SPENT FUEL STORAGE AND TRANSPORTATION WORKSHOP 03/00

SFPO OUTPUTS SINCE 09/98

● DUAL-PURPOSE CASKS (STORAGE COMPONENT)

– HOLTEC HISTAR 100	09/99 -CERTIFIED
– TN-68	05/99 -RULEMAKING
– NAC STC/MPC	03/99 -RULEMAKING
– NAC UMS	11/99
– BFS WESFLEX	03/00
– BFS TRANSTOR	TBD

● STORAGE-ONLY CASKS

– TN-32	03/99 -RULEMAKING
– BFS VSC-24 AMENDMENTS	04/99 -RULEMAKING
– TN-W NUHOMS AMENDMENTS	04/99 -RULEMAKING
– HOLTEC HI-STORM	07/99 -RULEMAKING

SFPO OUTPUTS (CONTINUED) SINCE 09/98

● TRANSPORTATION

- HOLTEC HISTAR 100 03/99
- NAC STC/MPC 03/99
- GA-4 10/98
- TROJAN RPV PACKAGE 10/98
- TN-W MP-187 09/98

● ISFSI LICENSES

- FSV ISFSI LICENSE TRANSFER 06/99
- DOE TMI-2 FUEL DEBRIS 03/99
- TROJAN 03/99
- PFS LICENSE REVIEW ONGOING
- RANCHO SECO LICENSE REVIEW ONGOING

NON-CASEWORK RULEMAKING

ISSUED:

- ELIMINATION OF 30 DAY PRE-OP TEST REPORT
- NEW 72.48 REGULATION
- MISC. PART 72 CHANGES
- EXPAND PART 72 APPLICABILITY TO CoC HOLDERS

PENDING :

- CLARIFY RULE FOR PART 72
- GREATER THAN CLASS C PETITION
- SHIPMENT NOTICE TO NATIVE AMERICAN TRIBES
- MAJOR REVISION TO PART 71

CASEWORK

CURRENT AND PENDING REVIEWS (AS OF 10/99):

PART 71

●	NEW APPLICATIONS	9
●	AMENDMENTS	27
●	RENEWALS	3
●	OTHER	10

PART 72

●	NEW APPLICATIONS	8
●	AMENDMENTS	10
●	EXEMPTIONS	4
●	TOPICALS	3

CASEWORK (CONT.)

PART 72 RULEMAKINGS IN PROGRESS

- NEW CoCs: 6
- AMENDMENTS: 5

SFPO OUTCOMES

- REACTOR LICENSEES HAVE MORE DRY CASK STORAGE OPTIONS
 - SFPO ANTICIPATES 4 SPENT FUEL STORAGE CASK REVIEWS AND 4 SPENT FUEL TRANSPORTATION CASK REVIEWS ASSOCIATED WITH DUAL-PURPOSE CASK SYSTEMS SHOULD BE COMPLETED BY DECEMBER 2000
 - SFPO ASSURES FULL-CORE OFFLOADS ARE ADDRESSED
- TRANSPORTATION CERTIFICATES WILL BE ISSUED IN TIME TO TRANSFER THE NATION'S SPENT NUCLEAR FUEL TO A LICENSED CENTRAL INTERIM STORAGE FACILITY OR REPOSITORY
- SFPO ACTIVELY ENGAGED WITH INDUSTRY REPRESENTATIVES ON A VARIETY OF LICENSING AND TECHNICAL ISSUES RELATED TO SPENT FUEL STORAGE, DECOMMISSIONING, AND TRANSPORTATION



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LICENSE TERMINATION ISSUES

**John T. Greeves, Director
Division of Waste Management
Office of Nuclear Material and Safeguards**



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IMPORTANT LICENSE TERMINATION ISSUES

- **Decommissioning Responsibilities Within NRC**
- **License Termination Plan (LTP) Level of Detail**
- **LTP Change Process**
- **Rubblization**
- **Decommissioning Standards**



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**DECOMMISSIONING RESPONSIBILITIES
WITHIN NRC**

NRR

- **Emergency Plans**
- **Safeguards**
- **Insurance**
- **Zirconium Fires**
- **Contact: John Zwolinski**

NMSS

- **LTP**
- **Final Surveys**
- **MARSSIM**
- **DCGLs**
- **Contact: John Greeves**



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GOVERNING REGULATIONS

- **10 CFR 50.82 - Decommissioning of Nuclear Power Reactors (revised July 28, 1996)**
- **10 CFR 20 - Radiological Criteria for License Termination (revised July 21, 1997)**



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LTP LEVEL OF DETAIL

Licensee must include the following in the LTP:

- **Site Characterization**
- **Remaining Dismantlement Activities**
- **Plans for Site Remediation**
- **Final Radiation Surveys**
- **Radiological Criteria for License Termination**
- **Updated Site-specific Cost Estimate**
- **Supplement to the Environmental Report**



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LTP CHANGE PROCESS

- **Licensee changes allowed when:**
 - ✓ **No significant safety issue involved**
 - ✓ **Complies with 10 CFR 50.82**

- **License Amendment required when change involves:**
 - ✓ **DCGL**
 - ✓ **Statistical test method used**



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RUBBLIZATION CONCEPT

- **Controversial**
- **Stakeholder Comments**
 - ✓ **NEI**
 - ✓ **State of Maine**
 - ✓ **Environmental Groups**
- **Case by Case Reviews**



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DECOMMISSIONING STANDARDS

- **NRC Requirements**
 - ✓ **10 CFR Part 20.1402**
 - **25 mrem/yr**
 - **all pathways**
 - **ALARA**
- **EPA Guidance**
 - ✓ **CERCLA/RCRA**
 - **15 mrem/yr**
 - **4 mrem/yr from groundwater**
 - **MCLs (0.2 - 40 mrem/yr)**
- **States**



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SUMMARY

- **Interface Early on Level of Detail**
- **Reach Agreement on Process Changes**
- **Follow results of Rubblization Case by Case Studies**
- **Resolution of Decommissioning Standards Likely Will Require Congressional Action**

Entombment as a Decommissioning Option

**Decommissioning Planning & Technology Forum
October 18 - 20, 1999**

**Margaret V. Federline, Deputy Director
Office of Nuclear Regulatory Research
U. S. Nuclear Regulatory Commission**

(301)415-8003, MVF@NRC.GOV

Entombment as a Decommissioning Option

Outline

- Background
- Technical Issues
- Regulatory Issues
- Conclusions
- Next Steps



Entombment as a Decommissioning Option

Current Definition of Entombment

“ENTOMB is the alternative in which radioactive contaminants are encased in a structurally long-lived material, such as concrete. The entombed structure is appropriately maintained and continued surveillance is carried out until the radioactivity decays to a level permitting unrestricted release of the property.”

Reference: Proposed Rule, Decommissioning Criteria for Nuclear Facilities, 50 FR 5600

Entombment as a Decommissioning Option

Background

- DECON, SAFE STOR, and ENTOMB options in 1988 Decommissioning Rule
- Final Rule restricts use of ENTOMB to address concerns over long time for radiation levels to reach acceptable limits
- 10 CFR 50.82 requires NRC approval of any option where decommissioning will not be completed within 60 years, and only when necessary to protect public health and safety.

Entombment as a Decommissioning Option

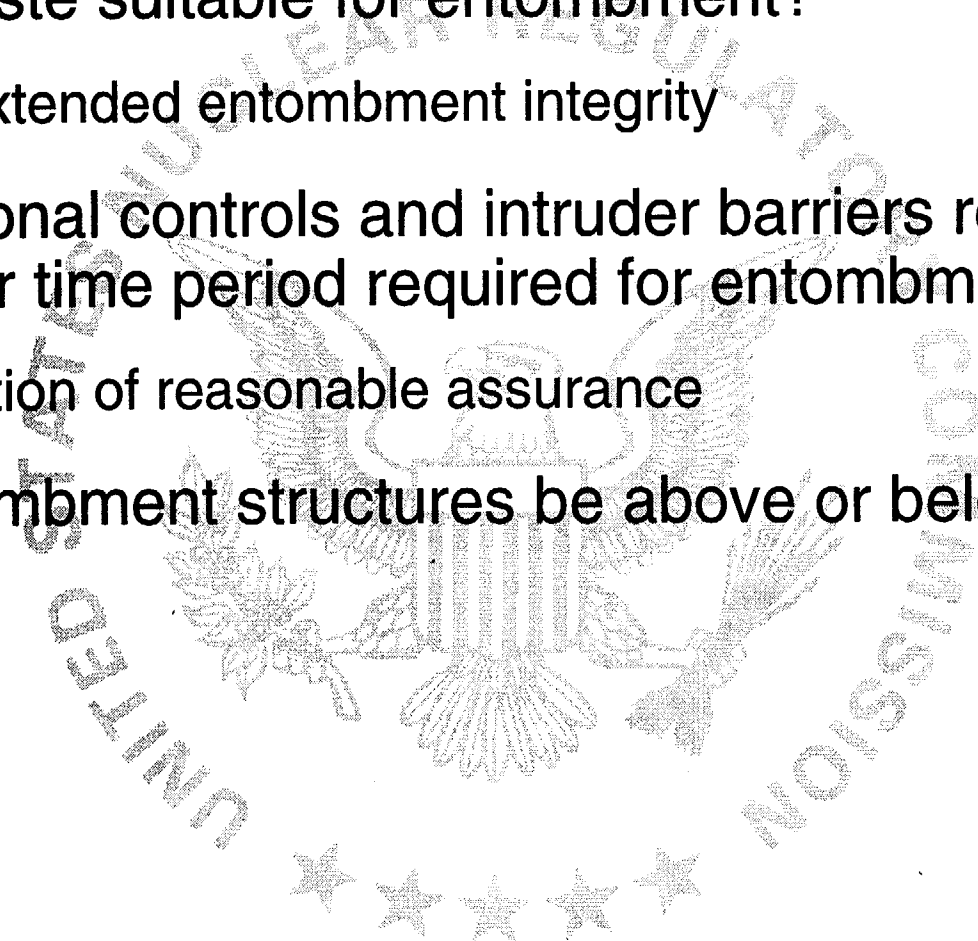
Background Continued

- Renewed interest in entombment stems in part from increased disposal cost and acceptance of restricted release
- Commission directed staff to evaluate whether entombment is a viable option (4/99)
- Staff assisted by Pacific Northwest National Laboratory (PNNL) completes technical feasibility study (1998)
 - ▶ Realistic entombment scenarios
 - ▶ Considered need for institutional controls

Entombment as a Decommissioning Option

Technical Issues

- Is GTCC waste suitable for entombment?
 - ▶ Requires extended entombment integrity
- Can institutional controls and intruder barriers remain effective over time period required for entombment?
 - ▶ Demonstration of reasonable assurance
- Should entombment structures be above or below grade?



Entombment as a Decommissioning Option

Regulatory Issues

- Change 60 year time limit in 10 CFR 50.82
- Establish requirements needed to ensure entombment system failure unlikely
- Demonstrate releases would not result in unacceptable doses (10 CFR 20 Subpart E)
- Supplemental EIS is needed
- GTCC statutory and regulatory changes needed

Entombment as a Decommissioning Option

Conclusions

- Study suggests entombment can be a viable and safe decommissioning alternative
- Potential cost savings depends on cost of institutional controls and waste volume reductions
- Impacts on health, safety, and environment should be small
- Affords flexibility to address licensee's specific situation
- Broad stakeholder views essential input to recommendations on feasibility of entombment

Entombment as a Decommissioning Option

Next Steps

- Workshop scheduled to solicit stakeholder views on feasibility of entombment option
 - ▶ December 14 -15, 1999 from 9am - 4pm at NRC Headquarters
 - ▶ Policy, regulatory, and technical issues will be discussed
 - ▶ Seeking input in licensee interest
 - ▶ Agenda posted to NRC website (10/99)
- Staff will submit recommendations to Commission in May 2000



Results of NRC Public Meetings on Control of Solid Materials

Portland, Maine
October 19, 1999

Rationale for examining NRC approach for controlling solid materials with small amounts of radioactivity

- There are solid materials at licensed facilities that will need disposition
 - ▶ Some of the solid material has small amounts of radioactivity

- Overall question, “What should be done with these materials?”
 - ▶ Should all materials be buried in licensed low level waste (LLW) disposal sites, or
 - ▶ Is there a safe way to re-use or recycle some of these materials if radioactivity levels are low enough?

Rationale for examining NRC approach for controlling solid materials with small amounts of radioactivity (cont'd)?

- There are no NRC regulations for control of most of these materials
 - ▶ Licensees still seek to release solid materials when obsolete or at decommissioning
 - ▶ Decisions are being made case-by-case
 - ▶ Lack of criteria causes inconsistent release levels and nonuniform levels of protection

- NRC wants to consider all issues in an open public forum:
 - ▶ All health and environmental impacts involved with the situation
 - ▶ Related economic aspects

Commission Direction to NRC Staff

- 6/30/98 - Consider rulemaking to establish dose-based standard and provide enhanced public participation
- 6/15/99 - Publish Issues Paper (containing several alternative courses of action) in Federal Register for public comment
- 8/20/99 - Continue to proceed with enhanced public process; brief the Commission in March 2000 on results of public meetings and next steps; hold additional public meetings on a draft of GEIS

Issues Paper and Public Meetings

- Issues Paper - for public comment in FRN (6/30/99) and on NRC's website
- Facilitated public meetings already held and scheduled
 - ▶ San Francisco, CA - Sept 15-16, 1999
 - ▶ Atlanta GA - Oct 5-6, 1999
 - ▶ Rockville MD (NRC headquarters) - Nov 1-2, 1999
 - ▶ Chicago IL - December 7-8, 1999

Principal Contents of Issues Paper

■ Alternatives:

- ▶ Continue status quo
- ▶ Unrestricted use if below dose criterion
- ▶ Restrict release to certain authorized uses
- ▶ Not allow release of materials from contaminated areas

■ Decision-making Factors:

- ▶ human health and environmental impacts
- ▶ cost-benefit analysis
- ▶ ability to measure radioactivity at low dose levels
- ▶ international, national, and State standards

Summary of NRC Public Meetings in San Francisco, CA, and Atlanta, GA

- Attendance at the meeting
 - ▶ Licensees and licensee organizations
 - ▶ Health Physics Society
 - ▶ EPA, DOE
 - ▶ State agencies
 - ▶ Scrap and recycling companies; steel manufacturers
 - ▶ Sanitary waste facilities
 - ▶ Indian tribes

- Letter from citizen groups explaining why they did not attend was delivered at the meetings

Summary of NRC Public Meetings in San Francisco, CA, and Atlanta, GA (cont'd)

- Principal comments from the meeting - general
 - ▶ There is a need for a dose-based standard to provide a consistent approach
 - ▶ Should seek additional ways to enhance public input, e.g., community workshops, State and licensee outreach, media
 - ▶ Should consider standards for other than metals and concrete, e.g., NORM, trash, mixed waste
 - ▶ Measurement and implementation methods are essential but may be difficult to develop

Summary of NRC Public Meetings in San Francisco, CA, and Atlanta, GA (cont'd)

- Principal comments from the meeting - alternatives for control of solid materials
 - ▶ Steel industry and scrap representatives were concerned with unrestricted use due to potential for contamination in products
 - ▶ Practicality and impact of a prohibition on solid releases on various licensees (e.g., medical) is of concern
 - ▶ Methods and costs to implement restricted use may be a concern and would need to be worked out
 - ▶ Other alternatives suggested: consider retaining Reg Guide 1.86; adopt ANSI Standard N13.12; use general licensing; a buy-back program of materials

Technical Basis Development

- Draft NUREG-1640 for comment (published 3/99)

- Contractual assistance to analyze:
 - ▶ environmental impacts, collective doses, costs and cost-benefit of potential alternatives - (begun 8/99, SAIC, ICF)

 - ▶ ability to survey at low levels - (begun 7/99, EML/ORISE)



SUMMARY OF RELEASE CRITERIA FOR UNRESTRICTED RELEASE

Public Meeting Related to the Sale of Portion of Land That is Part of Licensee's Site

Larry W. Camper, Chief
Decommissioning Branch
Division of Waste Management
Office of Nuclear Material Safety and Safeguards

PARTIAL SITE RELEASES

- Challenges (NRC/Utilities)
- Stakeholders confidence
- Unrestricted use
- 10 CFR Part 50.82

RADIOLOGICAL RELEASE CRITERIA FOR UNRESTRICTED RELEASE.

Site Acceptable for release (10 CFR Part 20.1402) if:

- ✓ Residual radioactivity distinguishable from background
 - Not to exceed 25 mrem (0.25 mSv)

- ✓ Includes dose contributions from:
 - Groundwater sources of drinking water

- ✓ Reduce radioactivity levels to As Low As Reasonably Achievable (ALARA)

INFORMATION REQUESTED BY NRC STAFF TO ADDRESS 10 CFR Part 20, SUBPART E.

- Location of all Impacted Areas (In areas to be released)
- Disposition of all licensed materials
- Basis to address 10 CFR Part 20, Subpart E
 - Dose Assessment
 - Results of radiation surveys
 - Survey guidance used
- Information submitted available to the public
- Noticed Public Meeting
- Conduct of a Confirmatory Survey

NRC STAFF REVIEW PROCESS

- Regulatory Guides used by NRC staff:
 - Describe to the public methods acceptable to the staff
 - Explain techniques used by the NRC staff
 - Provide guidance to licensees

- Draft Regulatory Guide DG-4006 **“Demonstrating Compliance with the Radiological Criteria for License Termination”**
 - Addresses release of buildings and soil under NRC regulatory jurisdiction

- DG-4006 contains regulatory positions on the following:
 - Dose Modeling
 - Final surveys
 - ALARA
 - Restricted use

- Additional guidance is provided in a series of NUREGs:
 - Dose Modeling NUREG-1579
 - Methods for Conducting Final Surveys NUREG-1575; NUREG-1505; and NUREG-1507

REVIEW STATUS BASED ON LICENSEE SUBMITTAL of September 22, 1999

Categories of NRC staff Findings

- Licensee needs to provide copies of reports referenced in 9/22/99 SUBMITTAL

- Licensee need to provide additional radiological analysis

- Clarify or provide references for calculations provided in SUBMITTAL

INSPECTIONS

- NRC staff will independently:
 - Assess Site classifications
 - Validate Sampling design
 - Familiarize staff with physical layout of the area to be released

- Conduct Confirmatory Survey and Inspection
 - NRC staff will design and conduct confirmatory survey in concert with ORISE

SUMMARY

- Review licensee SUBMITTAL
- Perform independent sampling and review the results of samples split with the State
- Review licensee responses to questions
- Initiate confirmatory survey (if results show that areas meet the release criteria)
- Notify the licensee of NRC conclusions regarding 10 CFR Part 20, Subpart E
- Remain responsible to meet 10 CFR 50.82