

NEGOTIATION PROCESS

LOS ALAMOS NATIONAL LABORATORY (LANL)

LANL/DOE want to engage EPA and NMED in a negotiation in order to facilitate the cleanup of Solid Waste Management Units (SWMU's) at the Los Alamos site. This must be done consistent with current regulations and the goal of protecting human health and the environment.

The basic objectives of the negotiation process are:

1. Minimize overall study and remediation costs.
2. Minimize the waste defined or generated for remediation.
3. Assure adequate storage and disposal capacity for wastes.

These objectives will be served by focussing on the following important regulatory issues:

1. Simplifying and minimizing sampling and analytical requirements for problem definition and clean-up verification.
2. Providing maximum flexibility in implementing clean-ups with appropriate regulatory oversight.
3. Allowing for the use of appropriate, simple, proven technologies for remediation.
4. Allowing for the use of rational, risk-based clean-up criteria, with sites classified in an industrial use scenario, when the land is planned to continue to be used for lab activities.
5. Expediting the issuance of necessary permit modifications, and cost-efficient waste characterization for off-site disposal.
6. Obtaining input from outside stakeholders, only where appropriate.

The negotiations will be accomplished by having a high level conceptual discussion with EPA/NMED, followed by a two tier negotiation.

Conceptual Discussion- This will include senior LANL, Sandia and DOE personnel in a meeting with EPA/NMED. This discussion will set the stage for the tier I negotiations. The meeting should last an hour and a half, and will develop major underlying themes centering on cost-effectiveness and LANL/regulator cooperation.

LANL/DOE want to develop a more productive working relationship with EPA and NMED, which will foster the development of win-win situations.

Tier I Negotiations- These negotiations will develop the basic agreement between EPA, NMED and DOE/LANL EM on the major regulatory issues. The key issues to be negotiated include the following:

1. Risk based cleanup levels for hazardous constituents.
2. Risk based dose cleanup levels for radionuclides (voluntary).
3. NFA criteria.
4. EC Remedy Selection and Implementation.
5. VCA criteria.
6. Permit modifications.
7. Appropriate level of public involvement.
8. Temporary Waste Storage.
9. On- Site disposal facility expansion.
10. Understanding on land use scenario.
11. Remedy selection process.
12. Waste and Site Characterization requirements.
13. Waste Classification
14. CAMU/ TU (Permit Modification)
15. NMED buy-in to agreements between LANL/DOE and EPA.
16. Landfill design and siting criteria.
17. Minimization of the use of NEPA
18. Installation Work Plan approval

At the conclusion of Tier I, agreements reached between NMED/ EPA and LANL/DOE will be reduced to writing. This information will be used to negotiate the day-to-day issues of the ER implementation, for example an individual SWMU sampling and analysis plan. If needed, a tri-party agreement with EPA/NMED/LANL would be negotiated at this stage. It is essential that it be determined if NMED or EPA, separately or jointly, must reach agreements with LANL/DOE.

Tier II Negotiations- These will be the month-to-month negotiations involving LANL/DOE and the appropriate lead regulatory agency, which will be conducted within the framework of the basic agreements reached in the Tier I negotiations. It is expected that these negotiations will include the following items:

1. Sampling and Analysis Plans.
2. Permit modifications (EPA and NMED)
3. NFA determinations
4. Corrective Measures
5. Corrective Measure implementation
6. Constituents of concern
7. EC/VCA activities
8. RFI Work Plans (Phase I and II)
9. Additional CAMU/TU's

The implementation of these routine negotiations should proceed smoothly with the ground rules established in Tier I. It is this stage which will be the proof of a true partnering relationship.

TNRCC Risk Reduction Rules

- Rules are a set of three performance standards for achieving risk reduction through closure/remediation/corrective actions
- Represents major policy change by the TNRCC
- Input from industry and environmental groups through Task Force 21
- Text of Rules found in:
17 TexReg 8881 (December 18, 1992)
and 18 TexReg 3814 (June 15, 1993)
- Guidance document to be published by TNRCC

Basic Philosophy of New Rules

- Purpose is to define cleanup actions
- Allows agency to have a consistent policy across a variety of programs
- Ultimate goal: Greatest degree of permanent risk reduction that is practicable and cost-effective but that protects human health and the environment
- Greater flexibility, less dependence on rigid guidelines
- Allows for site-specificity in evaluating a site
- Continuing responsibility depends upon degree of permanency in the closure/corrective action effort in reducing risk

Applicability

- Broad applicability: Hazardous/industrial solid waste, State superfund and spill programs
- Rules supplement but do not replace requirements for closure/remediation within existing program (e.g., baseline risk assessment for State Superfund program Subchapter K)
- PST Program has its own risk-based corrective action guidance

Components of Rules

- Set of three risk reduction standards that provide a range of options for remediation/closure
- Persons subject to rule may select option
- Standard No. 1: Closure/remediation to background
- Standard No. 2: Closure/remediation to health-based standards or criteria
- Standard No. 3: Closure/remediation with controls

Standard No. 1: General Features Closure/Remediation to Background

- Employs removal or decontamination to background
- The historic cleanup requirement of the TNRCC
- No post-closure care, monitoring or deed certification required when attained
- Greatest degree of permanent remedy
- Self-implementing: i.e., do the cleanup, then report to the Commission
- Pre-remediation notification requirement (for all three Standards)

Standard No. 1: Requirements

- For closure of waste management unit, all waste and waste residues must be removed from unit
- Contaminated media must be removed or decontaminated to background
- Background defined as results of analyses from unaffected media
- Achievable practical quantitation limit (PQL) if background not quantifiable
- Analyze medium of concern:
 - (a) for <10 samples, direct comparison of data to background or PQL
 - (b) for 10 or more samples, use the 95% confidence limit of the mean concentration
- Submit report to TNRCC after closure/remediation

Standard No. 1:

ADVANTAGES:

- Site restored to original condition
- Most permanent remedy
- No restrictions on land use
- Highest degree of risk reduction

DISADVANTAGES:

- May be costly to achieve
- May be technically impracticable

EXAMPLE SITES:

- Valuable real estate
- Small area of contamination

**Standard No. 2:
General Features
Closure/Remediation to Health-Based
Standards/Criteria**

- **Three levels of standards/criteria:**
 - (a) promulgated regulatory standards - e.g. MCL
 - (b) medium specific concentration (MSC)
 - (c) adjusted MSC
- **MSCs are concentrations in air, soil and water derived by TNRCC from exposure equations; promulgated in Appendix II**
- **Employs removal or decontamination to attain standard/criteria**
- **Ground water MSCs may be adjusted upward to account for high level of TDS**
- **No additional monitoring or post-closure care**
- **Deed certification required**
- **Self-implementing**

Standard No. 2: Requirements

- Removal of waste and residue as for No. 1
- Removal/decontamination of media to standards
- Must demonstrate permanence of treatment
- Must demonstrate that residue left in place would not cause future release that would lead to concentrations exceeding the standard
- If intermediate contamination may occur, appropriate cleanup levels must be developed by appropriate exposure assessment (e.g., food-chain crops, aquatic organisms)
- Non-residential land use can be assumed if criteria can be met
- If state or federal criteria not available, MSCs must be used
- Submit report to TNRCC after closure/remediation

Medium Specific Concentrations (MSCs)

MSCs:

- Are chemical-specific (App. II; § 335.568)
- Are calculated according to methodology provided in Rule
- Are provided for:
 - Ground water
 - Surface soil ("SAI")
 - Soil > 2 ft ("GWP")
- Residential and non-residential
- May be developed for any chemical for which adequate toxicity data are available
- Checking math is recommended even for published values

Standard No. 2:

ADVANTAGES:

- Contaminants may be left in place
- No post-closure care required
- May have wide range of future land use
- Considered a permanent remedy

DISADVANTAGES:

- May be costly due to conservative MSCs
- Reliance on post-closure controls not allowed
- Deed certification required
- Non-residential land use must be maintained

EXAMPLE SITES:

- Site planned for eventual sale
- Site where achieving MSCs is feasible

Standard No. 3: General Features Closure/Remediation with Controls

- Closure/remediation in place
- Engineering and institutional controls are allowed for risk reduction and site-specific cleanup standard may be developed
- Remedy options may range from Standard 2 to landfill-closure-type remedy
- Post-closure care may range from none to short/long term monitoring to full RCRA permitting
- Not a permanent remedy
- Not self-implementing; must have prior approval
- Deed certification required

Standard No. 3: Requirements

- Should achieve highest degree of practicable long-term effectiveness
- Three components:
remedial investigation, baseline risk assessment
and a corrective measure study
- Remedy evaluation factors (CMS)
 - a) Compliance with other regulations
 - b) Cost - benefit analysis
 - c) Implementability
 - d) Effectiveness, permanence
 - e) Reduction of toxicity, mobility or volume

Standard No. 3: Development Of Clean-Up Levels

- Numerical risk-based cleanup levels are developed specifically for a site
- May also employ published standards
- Appropriate land use:
e.g. residential v. industrial
- Air:
Standard met at property boundary
- Surface Water:
WQS or MCL
Site-specific standard

Standard No. 3: Development of Clean-Up Levels (Cont'd)

Ground Water:

- MCL or other criteria; ACL-type evaluations allowed
- Remediation may not be necessary; not a potential drinking water source; no hydraulic connection; technically impracticable

Soil:

- Human exposure
- Level that does not cause other media to exceed their standards
- Secondary pathways:
SW / sediment impacts, food-chain, phytotoxicity

Standard No. 3: Post-Closure Care

- **Not Required:**
when engineering/institutional controls are not necessary to protect human health and the environment
- **Required:**
when controls are necessary
- In either case, deed certification required

Standard No. 3: Reporting Requirements

- Remedial Investigation Report:
Nature, extent, direction, rate, volume, sampling methods, results, etc.
- Baseline Risk Assessment:
Current and future conditions, no remediation
- Corrective Measure Study:
Evaluates relative abilities and effectiveness of potential remedies to achieve requirements for attainment of the standard
- Corrective measure implementation report
(after remediation performed)

Standard No. 3:

ADVANTAGES:

- Considerable materials may be left in place
- Controls may take place of extensive excavation
- Site-specific factors play large role, allowing greater flexibility in evaluation

DISADVANTAGES:

- Post-closure care may be required
- Greater document requirements
- Prior approval from TNRCC must be obtained

EXAMPLE SITES:

- Site within operating facility where long-term controls are feasible
- Heavily contaminated site

Selection of Standard: Issues to Consider

- Cost of remediation
- Technical feasibility
- Long-term plans for site
- Market value of site
- Concerns of adjacent landowners
- Toxic tort liability
- "Environmental equity"

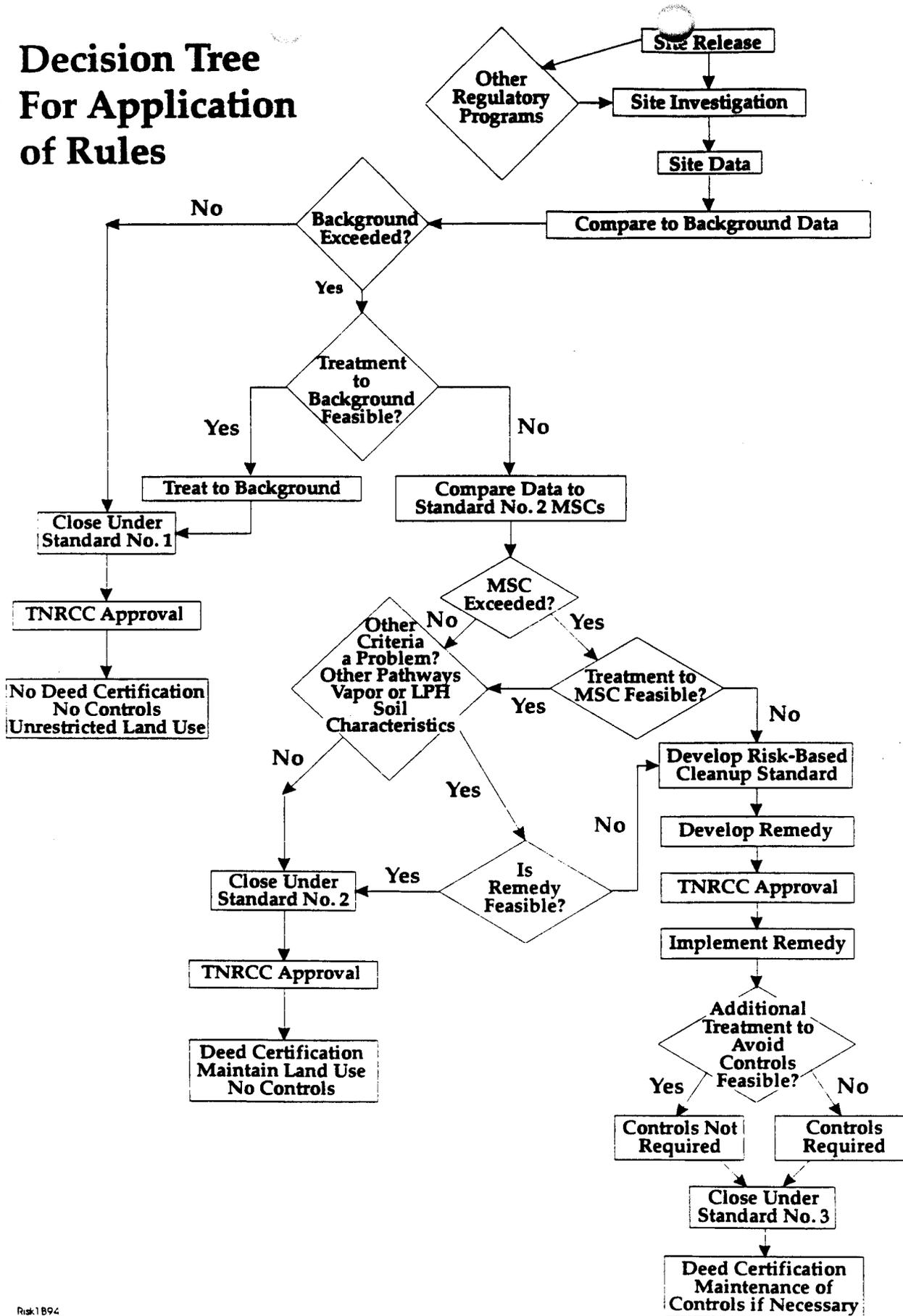
Scoping Meeting with TNRCC

- A valuable tool
- Plan it prior to submittal of documents
- Present site information/data and propose risk reduction approach
- Get key players to attend

Benefits:

- Expedites review process
- Opportunity to discuss and clarify difficult issues
- Minimizes revisions after submittal
- Establishes lines of communication

Decision Tree For Application of Rules



Summary of Standards

- No. 1: ● Background
 - No post-closure care
 - No deed recordation
 - No waste in place
 - Permanent
 - Self-implementing

- No. 2: ● Health-based standard
 - Residential or non-residential
 - Permanent
 - Controls not allowed
 - No post-closure care
 - Deed certification required
 - Self-implementing

- No. 3: ● Site-specific standards
 - May not be permanent
 - Waste can be left in place greater than health-protective standards
 - Risk assessment used
 - Controls allowed
 - Post-closure care may be required
 - Deed certification required
 - Feasibility of remedy considered
 - Not self-implementing