EXIT STRATEGY
Developed by AFCEE for the Defense Logistics Agency

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Overview

- Developing Trends in Restoration
- Purpose of the Exit Strategy
- Elements of the Exit Strategy
- Example of an Exit Strategy
ENIRONMENTAL LIABILITY INCREASES

- More sites are identified and ‘new’ contaminants are added to the list for investigation

- Addition of sites often exceeds removal of sites
  - Cleanup goals at many sites are unrealistic and not related to protectiveness
  - Cleanup time at many sites extends into decades
AVERAGE FUNDS AVAILABLE PER SITE IS DECREASING

DoD Active and BRAC Funding Trends

Exit Strategies Will Be Necessary to Overcome These Future Challenges
PURPOSE OF EXIT STRATEGY

- Identify and implement a **clearly-definable and achievable** path to response-complete status

- Reduce and effectively manage environmental response liabilities
DEFINITION OF EXIT STRATEGY

- Systematic and dynamic plan developed with stakeholders input
  - Accomplish specific cleanup goals within a defined time period
  - Define performance goals & performance metrics that will be used to evaluate the response action over time
  - Use decision logic to describe how progress toward performance goals will be pursued (triggers)
  - Specify contingency/alternative actions if performance fails to meet expectations
ELEMENTS OF EXIT STRATEGY

- A conceptual site model [CSM] of sufficient accuracy for decision making
- A summary of the technical, legal, and regulatory basis of the cleanup goals (i.e., ARARs)
- Remediation components based on established technology benchmarks
- The estimated time and cost required to achieve cleanup goals
A monitoring plan specifying performance metrics for implemented remedies

A summary of the decision logic to be used to achieve and document response complete in the specified timeframe

Alternative actions that will be taken (per decision logic) based on performance metric data
Updated CSM and RA strategy to include UXO and low radiation waste cleanup.

Exit Strategy was based on defined problem/objectives:
- Performance goals set for soils, UXO and radiation wastes
- Demonstrate attainment of cleanup goals per agreement
- Optimize landfill and groundwater LTM
- Initiate NPL delisting (completion by Sept 2005)
- Revise RA strategy to achieve cleanup in < 2 years vs. 3-4 years.

Soil cleanup completed in < 7 months
IMPORTANCE OF CONCEPTUAL SITE MODEL AND CLEANUP GOALS

- CSM represents current understanding of contaminants and site conditions
  - Source and transport mechanisms of contaminants
  - Pathways of exposure
  - Exposed receptors

- CSM is the technical foundation for developing remedial alternatives and cleanup goals
Cleanup goals should be

- **Necessary** to protect human health and the environment
- **Practicable** *(cost effective, not harmful, timely)*
- **Measurable**
USE DECISION LOGIC TO ADDRESS UNCERTAINTIES

- Develop decision logic diagrams to conceptualize alternative strategies
- Decision diagrams should be dynamic to incorporate new information as it becomes available
- Must include key decision criteria to “activate” alternative course of action (triggers)
ARAR ANALYSIS IS INTEGRAL

- ARARs help to define the necessary and practicable cleanup goals
- ARARs may change as site knowledge improves
- ARARs should be revisited during routine performance checks (i.e., Five-Year Reviews) to verify their appropriateness to the cleanup process
REMEDY SELECTION SHOULD BE CONSIDERED THROUGHOUT

- Cleanup goals drive remedy selection

- Remedy selection drives response complete and the cleanup timeframe

- Remedies with long-term or indefinite cleanup times compromise response complete and DoD environmental liability

- A cleanup time of <10 years reduces DoD environmental liabilities
Purpose - verify that a remedy:
- is performing as designed
- will achieve cleanup in <10 years
- is achieving protectiveness

Performance metrics must be established during the design phase

Actual performance is compared with metrics

Annual detailed review of performance is recommended
Alternative actions (i.e., contingencies) are required when the remedy fails to meet protectiveness or cleanup time.

Alternative actions may include:
- Optimization of the existing remedial system
- Replacement with another technology
- Revision of cleanup goals
The CSM will serve as the basis for making and improving response decisions and will be updated annually.

Performance expectations and goals are to be periodically evaluated (i.e., refined ARAR analysis).

Remedies must be designed to support a response complete determination.
SUMMARY OF EXIT STRATEGY - concluded

- Develop a remedy performance monitoring plan based on **performance metrics** - periodically validate the decision logic (annual review)
  - Clearly identify the objectives and metrics to support a response-complete determination
  - Clearly identify points of compliance and procedure to demonstrate attainment of goals
- Failure to meet a **performance metric** shall trigger an evaluation of alternative actions
- **Select and implement an alternative** that meets the requirement
QUESTIONS?